ORANGE COUNTY OF DEPARTMENT OF EDUCATION
ESPLANADE BUILDING 4 TENANT IMPROVEMENT

3001 REDHILL AVENUE, SUITE 117, 118, 119
COSTA MESA, CA 92626

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ORANGE COUNTY
DEPARTMENT OF EDUCATION
200 KALMUS DRIVE
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MECHANICAL
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ANAHEIM, CA 92807
HUY LE
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PLUMBING
OED INC
5200 E. LA PALMA
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ABBY BANERJEE
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MBI COMPANIES INC.
2755 BRISTOL STREET, SUITE 250
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1. IT IS THE INTENT OF THE ARCHITECT THAT THIS WORK BE IN CONFORMANCE WITH THE BUILDING AUTHORITIES HAVING JURISDICTION OVER THIS WORK AND OCCUPANCY. ALL CONTRACTORS SHALL EXECUTE THEIR WORK IN COMPLIANCE WITH THE CODES LISTED HEREIN. ALL WORK SHALL BE EXECUTED UNDER PROPER BUILDING PERMITS AS REQUIRED BY THE AUTHORITIES HAVING JURISDICTION OVER THIS PROJECT.
2. THE CONTRACTOR AND BUILDING OWNER SHALL MEET PRIOR TO NOTICE TO PROCEED AND SHALL DOCUMENT EXISTING CONDITIONS OF THE GENERAL PROJECT AREA.
3. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL VERIFY LOCATION OF ALL EQUIPMENT AND UTILITY POINTS OF SERVICE.
4. ALL BUILDING SYSTEM SERVICES (IE: WATER, SANITARY, FIRE ALARM, ELECTRIC, ETC.) SHALL REMAIN IN OPERATION THROUGHOUT CONSTRUCTION UNLESS NOTED OTHERWISE.
5. CONTRACTOR SHALL USE ONLY THOSE ENTRANCES AND PARKING FACILITIES ASSIGNED BY THE BUILDING OWNER FOR SITE ACCESS. ALL MATERIAL DELIVERIES SHALL BE SCHEDULED SO AS TO MINIMIZE DISRUPTIONS TO THE BUILDING OCCUPANTS.
6. SITE UTILITIES: THE CONTRACTOR SHALL USE EXISTING SERVICES.
7. CONTRACTOR SHALL USE THE EXISTING BUILDING IN A MANNER WHICH WILL NOT DEFACE OR DAMAGE THE EXISTING FACILITIES IN ANY FASHION. ALL DAMAGE BY CONTRACTOR AND THEIR FORCES SHALL BE REPAIRED/REPLACED BY THE CONTRACTOR AT NO COST TO THE BUILDING'S OWNER. PROVIDE PROTECTIVE MATERIAL AS WARRANTED.
8. THE CONTRACTOR SHALL FIELD MEASURE ALL DISTANCES AND CLEARANCES PRIOR TO COMMENCEMENT OF NEW WORK OR ORDERING OF MATERIALS. ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT PRIOR TO PROCEEDING WITH THAT PORTION OF WORK. THE CONTRACTOR SHALL NOT SCALE ANY DRAWINGS WITHIN THE CONSTRUCTION DOCUMENTS. ANY DISCREPANCIES SHALL BE RESOLVED BY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THAT WORK.
9. ANY EXISTING ELEC., PLUMB OR HVAC DEVICES OR SYSTEMS WHICH ARE NEEDED TO MAINTAIN THE OPERATIONS OF THE SYSTEM, SHALL BE CAPPED OFF OR REROUTED AS NECESSARY TO MAINTAIN SYSTEM, REGARDLESS IF INDICATED HEREIN.
10. THE CONTRACTOR SHALL ENSURE THAT ALL EXISTING/NEW CONSTRUCTION WILL BE SHELTERED FROM DAMAGE BY WEATHER AT ALL TIMES DURING THE CONSTRUCTION/DEMOLITION PROCESS.
11. WHEN REMOVING FIXTURES OR DEVICES, REMOVE ALL ASSOCIATED WIRE, BOXES, FRAMING, PIPING NECESSARY TO ALLOW THE COMPLETE INSTALLATION OF NEW FINISH.
12. EVERY EFFORT HAS BEEN MADE TO ACCURATELY DEPICT EXISTING CONDITIONS. HOWEVER, ALL WORK MUST BE VERIFIED IN THE FIELD PRIOR TO THE ORDERING OF ANY MATERIALS OR ANY WORK HAS BEGUN. ANY CONFLICTS BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED IMMEDIATELY TO THE ARCHITECT FOR VERIFICATION AND/OR CORRECTION.
13. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24 CCR, SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD) OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY REVIEW AGENCY BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317 (C). PART 1, TITLE 24, CCR).
14. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.
15. AT TIME OF PERMIT ISSUANCE, CONTRACTOR SHALL SHOW THEIR VALID WORKERS' COMPENSATION INSURANCE CERTIFICATE.
16. ALL WORK SHALL CONFORM TO ALL REQUIREMENTS OF STATE OF CALIFORNIA TITLE 24 REGARDLESS OF THE INFORMATION INDICATED ON THESE PLANS. IT IS THE RESPONSIBILITY OF THE INDIVIDUAL SUPERVISING THE CONSTRUCTION TO ENSURE THAT THE WORK PERFORMED IN ACCORDANCE WITH CODE REQUIREMENTS PRIOR TO REQUESTING INSPECTION.
17. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
18. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT (SCAQMD) SHALL BE NOTIFIED IN ACCORDANCE WITH CALIFORNIA STATE LAW PRIOR TO START OF ANY DEMOLITION, ADDITION, AND/OR REMODEL WORK. THE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT OFFICE IS LOCATED AT 21865 COPLEY DRIVE IN DIAMOND BAR, PHONE NO. (909) 396-2000. BE ADVISED, SCAQMD MAY REQUIRE A 10 DAY WAIT PERIOD PRIOR TO START OF WORK.
19. THE ISSUANCE OF A PERMIT SHALL NOT PREVENT THE BUILDING OFFICIAL FROM REQUIRING THE CORRECTION OF ERRORS ON THESE PLANS OR FROM PREVENTING ANY VIOLATION OF THE CODES ADOPTED BY THE CITY, RELEVANT LAWS, ORDINANCES, RULES AND/OR REGULATIONS.
20. SEPARATE PERMIT SHALL FIRST BE OBTAINED FROM THE CITY PUBLIC WORKS DEPARTMENT PRIOR TO PLACEMENT OF ANY CONSTRUCTION MATERIALS OR EQUIPMENT IN THE PUBLIC WAY.
21. CONTRACTOR SHALL COMPLY WITH THE CITY OF COSTA MESA MUNICIPAL CODE, CHAPTER 4 AND 8 -SOLID WASTE -WASTE DISPOSAL AND RECYCLING AND CALGREEN SECTION 5.408 PER G-031 FOR ALL CONSTRUCTION WASTE.

GENERAL NOTES

1. ALL SCREENED/HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN (TYP., UNLESS NOTED OTHERWISE).
2. ALL DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED (TYP. UNLESS NOTED OTHERWISE)
3. WORK IS REQUIRED TO BE PERFORMED WITHIN EXISTING BUILDING. EACH CONTRACTOR WILL HAVE ACCESS TO AREAS IN WHICH THIS WORK OCCURS.
4. OWNER WILL OCCUPY EXISTING BUILDING DURING LIFE OF THIS CONTRACT. SCHEDULE ALL WORK AT SUCH TIME AND IN SUCH A MANNER TO MINIMIZE INTERFERENCE TO PUBLIC, STAFF AND OWNER'S OPERATIONS. CONTRACTOR MUST OBTAIN APPROVAL OF OWNER BEFORE STARTING ANY WORK WITHIN ANY EXISTING AREA OF BUILDING.
5. AREA IMMEDIATELY SURROUNDING ALL AREAS OF WORK SHALL BE PROTECTED FROM DANGER OF MATERIALS BEING DROPPED OR DISLODGED.
6. WORK SHALL BE CARRIED OUT IN A MANNER THAT WILL NOT IMPOSE AVOIDABLE HARDSHIP, DANGER, OR INCONVENIENCE TO PUBLIC OR STAFF. WORK SHALL BE PLANNED SO AS TO MINIMIZE SHUTDOWN TIME OR ANY SERVICE.
7. REVIEW ALL EXISTING CONDITIONS, DRAWINGS AND OTHER DOCUMENTS FOR PROPER COORDINATION BETWEEN NEW AND EXISTING CONSTRUCTION.
8. ACTIVE UTILITIES WHOSE LOCATIONS ARE UNKNOWN TO OWNER ARE SUSPECTED TO EXIST. CONTRACTOR SHALL BE CAUTION OF THEIR EXISTENCE. IF THEY ARE ENCOUNTERED, IMMEDIATELY REPORT TO OWNER FOR DIRECTION.
9. LIMIT USE AND OPERATION AT SITE TO "LIMITS OF CONSTRUCTION," INDICATED AND REQUIRED TO PERFORM WORK. PORTIONS OF SITE BEYOND AREA OF REQUIRED WORK SHALL NOT BE DISTURBED WITHOUT WRITTEN APPROVAL OF OWNER.
10. LIMIT USE AND OPERATION WITHIN EXISTING FACILITIES TO AREAS INDICATED FOR CONSTRUCTION WORK AND AS REQUIRED TO PERFORM WORK. OTHER AREAS WITHIN FACILITY SHALL NOT BE DISTURBED OR DISRUPTED.
11. DAMAGES TO EXISTING STRUCTURE, UTILITIES AND OTHER ITEMS WHICH ARE CAUSED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED TO THEIR ORIGINAL CONDITION.
12. MAINTAIN AND KEEP CLEAR ALL REQUIRED FIRE EXITWAYS THROUGHOUT FACILITY WITHIN AND IN VICINITY OF CONSTRUCTION AREAS. COORDINATE ALTERNATE TEMPORARY EGRESS ROUTES WITH OWNER AND LOCAL FIRE AUTHORITY.
13. MAINTAIN EXISTING BUILDING IN A WEATHERTIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. REPAIR DAMAGE AND LEAKS CAUSED BY CONSTRUCTION OPERATIONS. TAKE ALL PRECAUTION NECESSARY TO PROTECT BUILDING AND ITS OCCUPANTS DURING CONSTRUCTION PERIOD.
14. THE DEMOLITION DRAWINGS FOR ARCHITECTURAL AND ENGINEERING WORK HAVE BEEN PREPARED USING (AS DESIGNED) DOCUMENTS PROVIDED BY THE OWNER. NEITHER THE OWNER NOR THE ARCHITECT WARRANT THESE TO BE (AS-BUILT) DOCUMENTS AND ACTUAL CONDITIONS MAY VARY.
15. CONTRACTOR SHALL DISPOSE OF ALL ITEMS - OWNER RESERVES THE RIGHT TO SELECT SPECIFIC ITEMS FOR SALVAGE.
16. PROVIDE TEMPORARY DUST, SIGHT, AND SOUND BARRIERS WHEREVER NECESSARY TO LIMIT THE AMOUNT OF NOISE, DUST AND VISUAL POLLUTION WITHIN AND AROUND THE FACILITY, TO MAINTAIN OCCUPANCY AND USE OF OCCUPIED AREAS IN THE EXISTING BUILDING 24 HOURS PER DAY. THE EXACT LOCATION AND QUANTITY OF TEMPORARY BARRIERS IS TO BE DETERMINED BY CONSTRUCTION SCHEDULE AND WORK SEQUENCE. INTERIOR PARTITIONS ARE DEFINED FOR THESE PURPOSES AS FULL HEIGHT 3-5/8" METAL STUD WITH GWB FINISH, PAINTED (COLOR AS SELECTED BY OWNER). SOUND INSULATED WITH FULL HEIGHT 2" (UNFACED) SOUND ATTENUATION BLANKETS, AND SEALED TOP, BOTTOM, AND ENDS TO PREVENT THE PASSAGE OF DUST AND NOISE.
17. SAFETY DURING CONSTRUCTION TO COMPLY WITH CFC & CBC CHAPTER 33.

APPLICABLE CODES

2025 CALIFORNIA BUILDING STANDARDS
PART 1 - ADMINISTRATIVE CODE, TITLE 24 C.C.R.

PART 2 - 2025 CALIFORNIA BUILDING CODE, TITLE 24 C.C.R.
(2021 INTERNATIONAL BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH 2022 CA AMENDMENTS)

PART 3 - 2025 CALIFORNIA ELECTRICAL CODE, TITLE 24 C.C.R.
(2020 NATIONAL ELECTRIC CODE WITH 2022 CA AMENDMENTS)

PART 4 - 2025 CALIFORNIA MECHANICAL CODE, TITLE 24 C.C.R.
(2021 UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS IAPMO WITH 2022 CA AMENDMENTS)

PART 5 - 2025 CALIFORNIA PLUMBING CODE, TITLE 24 C.C.R.
(2021 UNIFORM PLUMBING CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO WITH 2022 CA AMENDMENTS)

PART 6 - 2025 CALIFORNIA ENERGY CODE, TITLE 24

PART 9 - 2025 CALIFORNIA FIRE CODE, TITLE 24, C.C.R.
(2021 INTERNATIONAL FIRE CODE OF THE INTERNATIONAL CODE COUNCIL WITH 2022 CA AMENDMENTS)

PART 10 - 2025 CALIFORNIA EXISTING BUILDING CODE, TITLE 24, C.C.R.
(2021 INTERNATIONAL EXISTING BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL WITH AMENDMENTS)

PART 11 - 2022 GREEN BUILDING STANDARDS (CALGREEN CODE), TITLE 24 C.C.R.

PART 12 - 2022 CALIFORNIA REFERENCE STANDARDS CODE, TITLE 24 C.C.R.

APPLICABLE STANDARDS
FOR A LIST OF APPLICABLE STANDARDS, INCLUDING CALIFORNIA AMENDMENTS TO THE NFPA STANDARDS, REFER TO CBC CHAPTER 35 AND CFC CHAPTER 80

NFPA 1	FIRE CODE®	2024 EDITION
NFPA 10	STANDARD FOR PORTABLE FIRE EXTINGUISHERS	2026 EDITION
NFPA 13	STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS	2015 EDITION
NFPA 70	NATIONAL ELECTRICAL CODE® (NEC)	2026 EDITION
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE	2025 EDITION
NFPA 101	LIFE SAFETY CODE®	2024 EDITION
NFPA 253	STANDARD METHOD OF TEST FOR CRITICAL RADIANT FLUX OF FLOOR COVERINGSYSTEMS USING A RADIANT HEAT ENERGY SOURCE	2023 EDITION

ENERGY CODES

THE CALIFORNIA ENERGY CODE SECTION 10-103 REQUIRES ACCEPTANCE TESTING ON ALL NEWLY INSTALLED LIGHTING CONTROLS, MECHANICAL SYSTEMS, ENVELOPES, AND PROCESS EQUIPMENT AFTER INSTALLATION AND BEFORE PROJECT COMPLETION. AN ACCEPTANCE TEST IS A FUNCTION PERFORMANCE TEST TO HELP ENSURE THAT NEWLY INSTALLED EQUIPMENT IS OPERATING AND IN COMPLIANCE WITH THE ENERGY CODE.

LIGHTING CONTROLS ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (ATT).

MECHANICAL SYSTEM ACCEPTANCE TESTS MUST BE PERFORMED BY A CERTIFIED MECHANICAL ATT FOR PROJECTS SUBMITTED ON OR AFTER OCTOBER 1, 2021.

ENVELOPE AND PROCESS EQUIPMENT ACCEPTANCE TESTS SHALL BE PERFORMED BY THE INSTALLING CONTRACTOR, ENGINEER/ARCHITECT OF RECORD OR THE OWNER'S AGENT.

A LISTING OF CERTIFIED ATT CAN BE FOUND AT:
HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/ACCEPTANCE-TEST-TECHNICIAN-CERTIFICATION-PROVIDER-PROGRAM/ ACCEPTANCE.

THE ACCEPTANCE TESTING PROCEDURES MUST BE REPEATED, AND DEFICIENCIES MUST BE CORRECTED BY THE BUILDER OR INSTALLING CONTRACTOR UNTIL THE CONSTRUCTION/ INSTALLATION OF THE SPECIFIED SYSTEMS CONFORM AND PASS THE REQUIRED ACCEPTANCE CRITERIA.

PROJECT INSPECTORS WILL COLLECT THE FORMS TO CONFIRM THAT THE REQUIRED ACCEPTANCE TESTS HAVE BEEN COMPLETED.

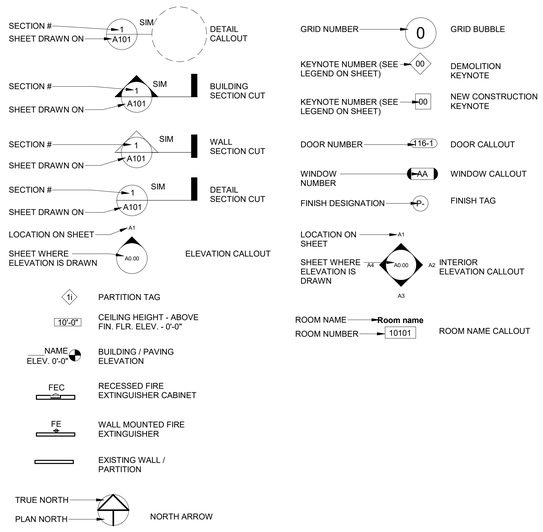
GENERAL CONSTRUCTION NOTES

Ø	DIAMETER OR ROUND	DEL	DELETE	FT	FOOT OF FEET	OFOI	OWNER-FURNISHED	TO	TOP OF
+/-	PLUS/MINUS	DET	DETAIL	FTG	FOOTING		OWNER-INSTALLED	TOC	TOP OF CURB
#	POUND OR NUMBER	DF	DRINKING FOUNTAIN	GA	GAUGE	OH	OPPOSITE HAND	TOD	TOP OF DRAIN
%	PERCENT	DIA	DIAMETER	GALV	GALVANIZED	OTO	OUT TO OUT	TOP	TOP OF PARAPET
@	AT	DIM	DIMENSION	GB	GYPSUM BOARD	PA	PUBLIC ADDRESS	TOPL	TOP OF PLATE
°	DEGREE	DL	DOOR LOUVER	GFRC	GLASS FIBER REINFORCED CONCRETE	PE	PAD ELEVATION	TOR	TOP OF RIDGE
℄	CENTER LINE	DN	DOWN	GYP	GYPSUM	PERP	PERPENDICULAR	TOS	TOP OF SLAB
∠	ANGLE	DP	DISABLED PERSON ACCESSIBLE	HB	HOSE BIB	PH	PANIC HARDWARE	TOW	TOP OF WALL
℗	PROPERTY LINE	DS	DOWNSPOUT	HDWE	HARDWARE	PL	PLATE	TST	TOP OF STEEL
AB	ANCHOR BOLT	DWG	DRAWING	HM	HOLLOW METAL	PLAM	PLASTIC LAMINATE	TV	TELEVISION
ABS	ABSOLUTE	EA	EACH	HOR	HORIZONTAL	PLUMB	PLUMBING	TYP	TYPICAL
AC	ASPHALTIC CONCRETE	EJ	EXPANSION JOINT	HR	HOUR	PLYWD	PLYWOOD	UC	UNERCUT
ACC	ACCESSIBLE WORK STATION	ELEV	ELEVATION	HVAC	HEATING VENTILATION AIR	PM	PARTITION MOUNTED	UNO	UNLESS NOTED OTHERWISE
ACOUS	ACOUSTICAL	ELEC	ELECTRICAL	ID	INSIDE DIAMETER	POC	POINT OF CONNECTION	VCT	VINYL COMPOSITION TILE
ADJ	ADJACENT	EMT	ELECTRICAL METAL TUBING	IN	INCH OR INCHES	PR	PAIR	VERT	VERTICAL
AFF	ABOVE FINISH FLOOR	ENCL	ENCLOSURE	INT	INTERIOR	PREP	PREPARE	W	WIDE FLANGE
ALUM	ALUMINUM	ENGR	ENGINEER	INV	INVERT	PSF	POUNDS PER SQUARE FOOT	W/	WITH
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	EOS	EDGE OF SLAB	JBOX	JUNCTION BOX	PSI	POUNDS PER SQUARE INCH	W/O	WITHOUT
ARCH	ARCHITECTURAL	EQ	EQUAL	JAN	JANITOR CLOSET	PVC	POLYVINYL CHLORIDE	WD	WOOD
BD	BOARD	EQPT	EQUIPMENT	LAV	LAVATORY	R	RISER, RADIUS	WH	WATER HEATER
BLDG	BUILDING	EW	EACH WAY	LB(S)	POUND(S)	RD	ROOF DRAIN	WI	WOODWORK INSTITUTE
BLK	BLOCK	(E)	EXISTING	MAX	MAXIMUM	REC	RECESSED	WIN	WINDOW
BLKG	BLOCKING	EXP	ECPANSION	MB	MACHINE BOLT	REF	REFERENCE	WP	WATERPROOF
BTWN	BETWEEN	EXT	EXTERIOR	MDF	MEDIUM DENSITY FIBERBOARD	REQ	REQUIRED	WS	WOOD SCREW
C	CHANNEL	FA	FIRE ALARM	MFR	MANUFACTURER	RM	ROOM	WT	WEIGHT
CER	CERAMIC	FD	FLOOR DRAIN	MH	MANHOLE	RWL	RAIN WATER LEADER	WWF	WELDED WIRE FABRIC
CF	CUBIC FEET	FDC	FIRE DEPARTMENT CONNECTION	MIN	MINIMUM	RO	ROUGH OPENING	x	BY
CFCI	CONTRACTOR FURNISHED, CONTRACTOR INSTALLED	FDN	FOUNDATION	MISC	MISCELLANEOUS	SCHED	SCHEDULE	YD	YARD
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED	FE	FIRE EXTINGUISHER	MO	MASONRY OPENING	SECT	SECTION		
CJ	CONTROL JOINT	FEC	FIRE EXTINGUISHER W/CABINET	MTL	METAL	SF	SQUARE FEET		
CLG	CEILING	FF	FINISH FLOOR	(N)	NEW	SHT	SHEET		
CLR	CLEAR	FG	FINISH GRADE	NIC	NOT IN CONTRACT	SIM	SIMILAR		
CMU	CONCRETE MASONRY UNIT	FH	FIRE HYDRANT	NO	NUMBER	SM	SURFACE MOUNTED		
CONC	CONCRETE	FHC	FIRE HOSE W/ CABINET	NR	NON RATED	SMS	SHEET METAL SCREW		
CONT	CONTINUOUS	FHWS	FLAT HEAD WOOD SCREW	NTS	NOT TO SCALE	SOV	SHUT OFF VALVE		
CORR	CORRIDOR	FL	FLOOR	NTS	NOT TO SCALE	SPEC	SPECIFICATION		
CR	CLASSROOM	FO	FACE OF	OC	OVER	SST	STAINLESS STEEL		
CTSK	COUNTER SUNK	FOC	FACE OF CONCRETE	OA	OVERALL	STD	STANDARD		
CTC	CENTER TO CENTER	FOF	FACE OF FINISH	OC	ON CENTER	STL	STEEL		
d	PENNY	FOM	FACE OF MASONRY	OD	OUTSIDE DIAMETER	STRUCT	STRUCTURAL		
DBL	DOUBLE	FOS	FACE OF STUD	OFCI	OWNER-FURNISHED CONTRACTOR-INSTALLED	T&B	TOP AND BOTTOM		
		FS	FINISH SURFACE			TEMP	TEMPORARY		

NOTE:
OTHER ABBREVIATIONS USED ON THESE DRAWINGS ARE CONSIDERED STANDARDS IN THE BUILDING INDUSTRY. CONTACT ARCHITECT FOR NECESSARY CLARIFICATION.

ABBREVIATIONS

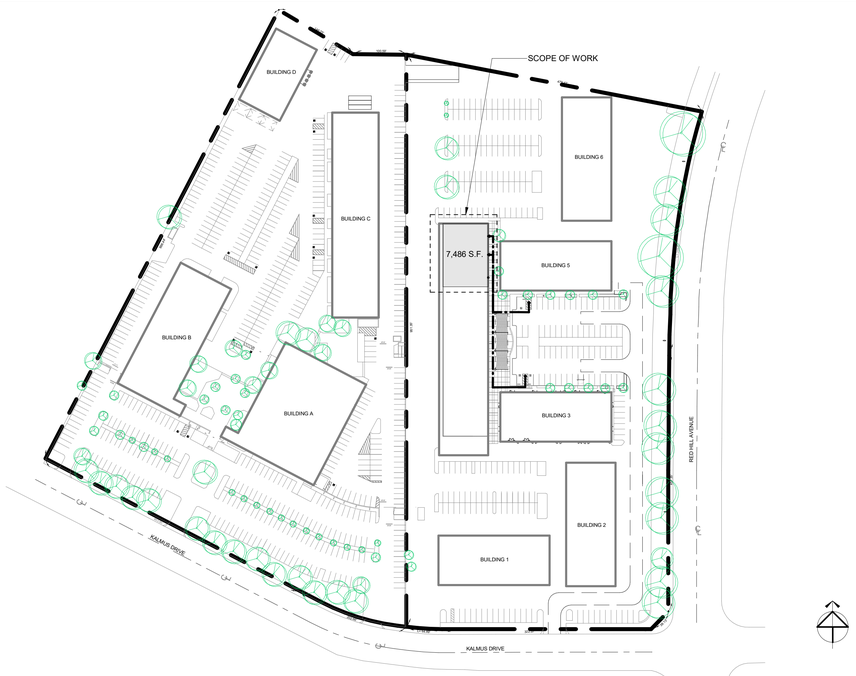
SYMBOL LEGEND



SHEET INDEX

SHEET NUMBER	SHEET NAME	ISSUE DATE
GENERAL		
G-000	COVER SHEET	10/07/2026
G-020	CODE ANALYSIS / LIFE SAFETY PLAN	10/07/2026
G-030	CALGREEN CHECKLIST	10/07/2026
G-031	CALGREEN CHECKLIST 2	10/07/2026
G-032	CALGREEN CHECKLIST 3	10/07/2026
GENERAL: 5		
DEMOLITION		
AD-100	DEMOLITION FLOOR PLAN WITH NOTES	10/07/2026
AD-110	DEMOLITION REFLECTED CEILING PLAN	10/07/2026
DEMOLITION: 2		
ARCHITECTURAL		
A-000	ARCHITECTURAL SITE PLAN	10/07/2026
A-100	ARCHITECTURAL FLOOR PLAN	10/07/2026
A-120	REFLECTED CEILING PLAN	10/07/2026
A-130	POWER & EQUIPMENT PLAN	10/07/2026
A-110	ENLARGED FLOOR PLANS & INTERIOR ELEVATIONS	10/07/2026
A-140	INTERIOR FINISH PLAN	10/07/2026
A-500	FRAMING DETAILS	10/07/2026
A-520	CEILING DETAILS	10/07/2026
A-540	CASEWORK LEGEND & SCHEDULE	10/07/2026
A-550	CASEWORK DETAILS	10/07/2026
A-600	DOOR SCHEDULE / DOOR AND FRAME TYPES	10/07/2026
A-800	CODE (INTERIOR ONLY) SIGNAGE TYPES	10/07/2026
ARCHITECTURAL: 12		
MECHANICAL		
M-001	MECHANICAL GENERAL NOTES AND LEGEND	10/07/2026
M-002	MECHANICAL SCHEDULES	10/07/2026
M-003	MECHANICAL SPECIFICATIONS	10/07/2026
M-004	MECHANICAL SPECIFICATIONS	10/07/2026
MD-100	MECHANICAL DEMOLITION FLOOR PLAN	10/07/2026
MD-200	MECHANICAL DEMOLITION ROOF PLAN	10/07/2026
M-100	MECHANICAL REMODEL FLOOR PLAN	10/07/2026
M-200	MECHANICAL REMODEL ROOF PLAN	10/07/2026
M-300	MECHANICAL DETAILS	10/07/2026
M-500	MECHANICAL TITLE 24	10/07/2026
M-501	MECHANICAL TITLE 24	10/07/2026
MECHANICAL: 11		
PLUMBING		
P-00.1	PLUMBING GENERAL NOTES AND LEGEND	10/07/2026
P-00.2	PLUMBING SCHEDULE	10/07/2026
PD-100	PLUMBING DEMOLITION PLAN	10/07/2026
P-100	PLUMBING REMODEL ROOF PLAN	10/07/2026
P-4.1	PLUMBING DETAILS	10/07/2026
PLUMBING: 5		
ELECTRICAL		
E105	PHOTOMETRIC CALCULATIONS	10/07/2026
E001	ELECTRICAL LEGEND AND GENERAL NOTES	10/07/2026
E002	ELECTRICAL SPECIFICATIONS	10/07/2026
E003	ELECTRICAL TITLE 24	10/07/2026
E101	ELECTRICAL FLOOR PLAN - DEMO	10/07/2026
E102	ELECTRICAL FLOOR PLAN - NEW	10/07/2026
E103	LIGHTING FLOOR PLAN - DEMO	10/07/2026
E104	LIGHTING FLOOR PLAN - NEW	10/07/2026
E501	ELECTRICAL DETAILS	10/07/2026
E701	SINGLE LINE DIAGRAM AND PANEL SCHEDULES	10/07/2026
ELECTRICAL: 10		

VICINITY MAP



AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

PROJECT INFO & SCOPE

CLIENT: ORANGE COUNTY DEPARTMENT OF EDUCATION
200 KALMUS DRIVE
COSTA MESA, CA 92626

PROJECT NAME: ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BUILDING 4 TENANT IMPROVEMENT

PROJECT ADDRESS: 3001 REDHILL AVENUE, SUITE 117, 118, 119
COSTA MESA, CA 92626

SCOPE OF WORK: 7,486 SF TENANT IMPROVEMENTS ALTERATIONS IN EXISTING OFFICE AREA. INCLUDES NON-BEARING PARTITIONS AND EXISTING NON-BEARING PARTITION ALTERATIONS, PATCH & REPAIR OF EXISTING INTERIOR FINISHES, NEW PAINT, NEW CEILING, NEW LIGHT FIXTURES, MINOR HVAC ALTERATIONS.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

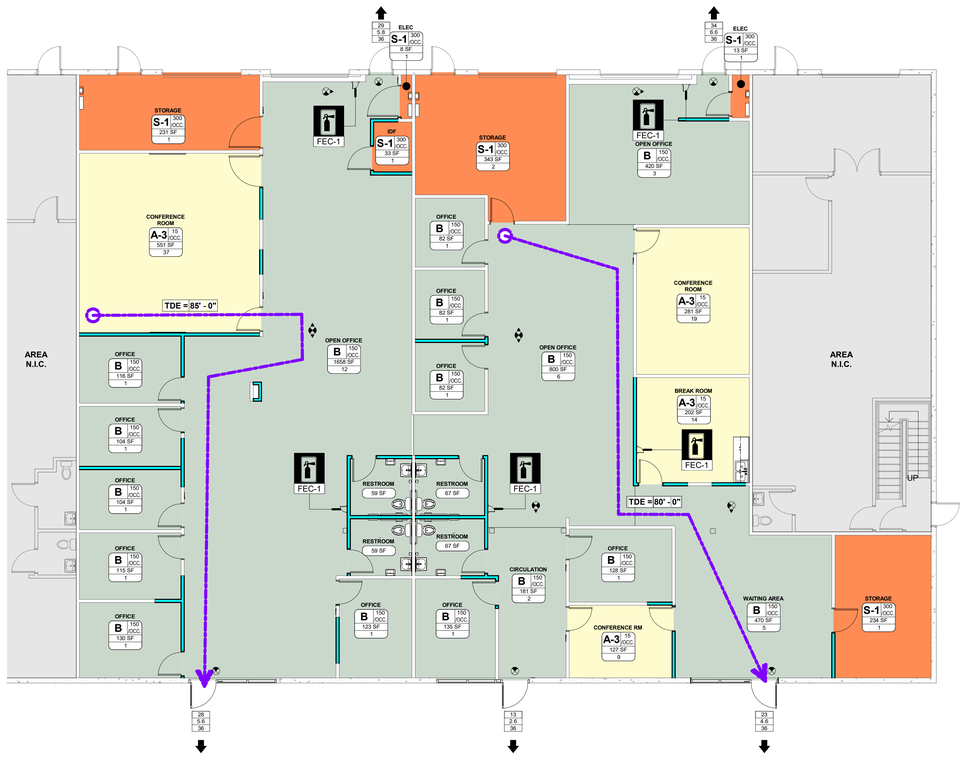
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. DONTJE NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE
COVER SHEET

SHEET #
G-000



LIFE SAFETY PLAN | C1

1/8" = 1'-0"

GENERAL BUILDING HEIGHTS AND AREAS - (CBC Ch. 5)

TYPE OF CONSTRUCTION, 602	**SEE PROJECT INFORMATION LEGEND**
AUTOMATIC SPRINKLER SYSTEM, 903.3.1	**SEE PROJECT INFORMATION LEGEND**

BUILDING HEIGHT IN FEET ABOVE GRADE PLANE, TABLE 504.3a

OCCUPANCY CLASSIFICATION	ALLOWABLE / CODE	ACTUAL / PROVIDED
B	40'-0"	20'-0"

NUMBER OF STORIES ABOVE GRADE PLANE, TABLE 504.4

OCCUPANCY CLASSIFICATION	ALLOWABLE / CODE	ACTUAL / PROVIDED
B	2	2

ALLOWABLE AREA FACTOR IN SQUARE FEET, TABLE 506.2

OCCUPANCY CLASSIFICATION	ALLOWABLE / CODE	ACTUAL / PROVIDED
B - BUSINESS	9,000	SEE USE AND OCCUPANCY DIAGRAMS

ALLOWABLE AREA DETERMINATION, 506.2.1

[9,000 + (9,000 X .75)] X 2 = 31,500 SF

FRONTAGE INCREASE, 506.3

.75

UNLIMITED AREA BUILDINGS, 507

NONSPRINKLERED, 1 STORY BUILDINGS, 507.3	N/A
SPRINKLERED, 1 STORY BUILDINGS, 507.4	N/A
2 STORY BUILDINGS, 507.5	N/A
GROUP A-3 BUILDINGS OF TYPE II CONSTRUCTION, 507.6	N/A
GROUP A-3 BUILDINGS OF TYPE III & IV CONSTRUCTION, 507.7	N/A
GROUP H-2, H-3 AND H-4 OCCUPANCIES, 507.8	N/A
UNLIMITED MIXED OCCUPANCY BUILDINGS WITH GROUP H-5, 507.9	N/A
AIRCRAFT PAINT HANGAR, 507.10	N/A
GROUP E BUILDINGS, 507.11	N/A
MOTION PICTURE THEATERS, 507.12	N/A
COVERED & OPEN MALL BUILDINGS & ANCHOR BUILDINGS, 507.13	N/A

MIXED USE AND OCCUPANCY, 508

NONSEPARATED OCCUPANCIES, 508.3	OCCUPANCY CLASSIFICATION, 508.3.1	SEE ALLOWABLE AREA TABLES
	ALLOWABLE BUILDING AREA & HEIGHT, 508.3.2	SEE ALLOWABLE AREA TABLES
	SEPARATION, 508.3.3	NO SEPARATION

FIRE RESISTANCE RATING

FIRE RESISTANCE RATINGS	REQUIRED PER CBC	REQUIRED PER NFPA	PROVIDED
STRUCTURAL FRAME	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
BEARING WALLS EXTERIOR	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
BEARING WALLS INTERIOR	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
NONBEARING WALLS AND PARTITIONS EXTERIOR	0 HR	0 HR (TABLE A.8.2.1.2)	0 HR
NONBEARING WALLS AND PARTITIONS INTERIOR	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
FLOOR CONSTRUCTION	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
ROOF CONSTRUCTION	0 HR (TABLE 601)	0 HR (TABLE A.8.2.1.2)	0 HR
CORRIDOR WALLS	SMOKE PART (710)	SMOKE PART (14.3.6 (2)a)	0 HR
SHAFT ENCLOSURE	1 HR (713.4)	1 HR (TABLE 12.1.6)	N/A

CLASSIFICATION OF OCCUPANCY - (NFPA 101 CH.6)

OCCUPANCY(S) OF THE BUILDING		**SINGLE OCCUPANCY GROUPS, NFPA 101 - 6.1**	X
		MULTIPLE OCCUPANCY GROUP, NFPA 101 - 6.1.14.2	

OCCUPANCY	USE (TABLE 7.3.1.2)	PROGRAM USE
ASSEMBLY	15	LOUNGE
BUSINESS	150	BUSINESS
STORAGE	300	STORAGE

INTERIOR FINISHES - CBC CH. 8

AUTOMATIC SPRINKLER SYSTEM, 903.3.1	**SEE PROJECT INFORMATION LEGEND**
TABLE 803.11 INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY	804 INTERIOR FLOOR FINISH

BUILDING HEIGHT IN FEET ABOVE GRADE PLANE, TABLE 504.3a

GROUP PER CH.3	INTERIOR EXIT STAIRWAYS AND RAMPS AND EXIT PASSAGEWAYS	CORRIDORS AND ENCLOSURE FOR EXIT ACCESS STAIRWAYS AND RAMPS	ROOMS AND ENCLOSED SPACES	INTERIOR FLOOR FINISH
A-3 - ASSEMBLY	B	B	C	CLASS II
CLASS A	FLAME SPREAD INDEX 0-25; SMOKE DEVELOPED INDEX 0-450			
CLASS B	FLAME SPREAD INDEX 26-75; SMOKE DEVELOPED INDEX 0-450		Class I	.45 watts/cm2 or >
CLASS C	FLAME SPREAD INDEX 76-200; SMOKE DEVELOPED INDEX 0-450		Class II	.22 watts/cm2 or >

MEANS OF EGRESS

MEANS OF EGRESS	PER FBC	PER NFPA	PROVIDED
01. MEANS OF EGRESS			
MAX DEAD-END CORRIDOR	50 FT (CBC 1020.5)	50 FT (NFPA 38.2.5.2)	10 FT
MAX TRAVEL DISTANCE TO EXIT	A, S-1=250 FT; B=300 FT (CBC T1017.2)	A, S-1=200 FT; (NFPA 38.2.6.2) B=300 FT (NFPA 38.2.6.3)	A, S-1=85 FT B=80 FT
COMMON PATH OF EGRESS TRAVEL	A=30 FT (CBC 1029.8) B, S-1=100 FT (CBC T1006.2.1)	A=20 FT (NFPA 12.2.5.1.2) B, S-1=100 FT (NFPA 14.2.5.3.1 & 38.2.5.3.1)	A=30 FT B, S-1=30 FT
02. EXIT DOORS			
MINIMUM DIMENSIONS	32" x 80" CLEAR (CBC 1010.1.1)	32" x 80" CLEAR (NFPA 7.2.1.2.3.2)	32" x 80" CLEAR
MAXIMUM LEAF WIDTH	48" (CBC 1010.1.1)	48" (NFPA 7.2.1.2.1.1)	48"
MINIMUM CLEAR OPENING	32" (CBC 1010.1.1)	32" (NFPA 7.2.1.2.3.2)	32"
PANIC HARDWARE	REQ. @ ALL EXITS (CBC 1010.2.9)	REQ. @ ALL EXITS (NFPA 7.2.1.7.1)	YES
03. EGRESS WIDTH PER OCCUPANT			
STAIRWAYS INCHES PER OCCUPANT	0.3 (CBC 1005.3.1 EX 1)	0.3 (NFPA 7.3.3.1)	N/A
OTHER EGRESS INCHES PER OCCUPANT	0.2 (CBC 1005.3.2 EX 1)	0.2 (NFPA 7.3.3.1)	0.2
CORRIDORS EXIT ACCESS WIDTH	44 INCHES THROUGHOUT (CBC T1020.3)	44 INCHES THROUGHOUT (NFPA 7.3.4.1, 12.2.3.8, 14.2.3.2.2 & 38.2.3.2)	114 INCHES
DOORS PER FBC 1010.1	32 INCHES THROUGHOUT (CBC 1010.1.1)	32 INCHES THROUGHOUT (NFPA 7.2.1.2.3.2)	34 INCHES

GENERAL NOTES

1. ALL DOCUMENTS AND DRAWINGS INCLUDED HEREWITH ARE INTENDED TO BE IN CONFORMANCE WITH ALL APPLICABLE CODES AND BUILDING REGULATIONS HAVING JURISDICTION OVER THIS TYPE OF FACILITY AND OCCUPANCY. IF A CONFLICT BETWEEN SUCH REQUIREMENTS OCCURS, THE MOST STRINGENT WILL GOVERN.
2. GENERAL CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY AND DOCUMENT ALL EXISTING FIELD CONDITIONS. ANY DEVIATIONS FROM THE EXISTING CONDITION DRAWINGS WILL BE ADDRESSED IMMEDIATELY WITH THE ARCHITECT.
3. PRIOR TO COMMENCING ANY WORK THE GENERAL CONTRACTOR IS RESPONSIBLE TO VERIFY THE LOCATION OF ALL UTILITY POINTS OF CONNECTION.
4. ALL BUILDING SYSTEM SERVICES (IE: WATER, SANITARY, FIRE ALARM, ELECTRIC, ETC.) WILL REMAIN IN OPERATION THROUGHOUT CONSTRUCTION. ALL NECESSARY INTERRUPTIONS FOR CONNECTION OF NEW WORK WILL BE PERFORMED AFTER NORMAL BUSINESS HOURS OR AS AGREED TO BY BUILDING OWNER. ANY REQUIRED INTERRUPTIONS OF SERVICE WILL BE SCHEDULED AND APPROVED BY THE BUILDING OWNER 72 HOURS IN ADVANCE. ALL COST IMPACTS FOR AFTER HOURS WORK WILL BE ANTICIPATED AND INCLUDED IN BID PROPOSAL.
5. CONTRACTOR WILL USE ONLY THOSE ENTRANCES AND PARKING FACILITIES ASSIGNED BY THE BUILDING OWNER FOR SITE ACCESS. ALL MATERIAL DELIVERIES WILL BE SCHEDULED TO MINIMIZE DISRUPTIONS TO THE BUILDING OCCUPANTS.
6. GENERAL CONTRACTOR WILL SCHEDULE ALL WORK TO AVOID INTERRUPTIONS TO ADJACENT AREAS. ALL DISRUPTIVE WORK WILL BE SCHEDULED AND PERFORMED BEFORE OR AFTER NORMAL BUSINESS HOUR. WORK STOPPAGE DUE TO VIBRATIONS, OR THAT DISTURB THE OCCUPANTS OF THE FACILITY WILL NOT BE GROUNDS FOR ADDITIONAL CHARGES OR CHANGE ORDERS.
7. ALL EXISTING MECHANICAL, ELECTRICAL, PLUMBING AND FIRE PROTECTION SYSTEMS NEEDED TO MAINTAIN CONTINUOUS OPERATIONS OF THE FACILITY, WILL BE CAPPED OFF OR REROUTED AS NECESSARY.
8. IF SCOPE OF WORK REQUIRES THE REMOVAL OF FIXTURES OR DEVICES, ALL ASSOCIATED WIRE, BOXES, FRAMING AND PIPING NECESSARY TO ALLOW THE COMPLETE INSTALLATION OF NEW FINISHES WILL BE REMOVED ALSO.
9. ALL SMOKE AND FIRE RATED WALLS WILL BE LABELED ABOVE THE CEILING FINISH WITH RED, PAINTED STENCILED LETTERING IDENTIFYING THE WALL RATING AND STATING "PROTECT ALL PENETRATIONS." STENCILED LABELING WILL OCCUR ON BOTH SIDES OF EACH SMOKE AND FIRE RATED WALL AT NOT MORE THAN 20 FEET ON CENTER AND ALL WALL TERMINATIONS OR CHANGES IN DIRECTION WILL BE DESIGNATED WITH A VERTICAL LINE.
10. SHOP DRAWINGS AND/OR SUBMITTALS FOR PRODUCTS, MATERIALS, ASSEMBLIES, AND SYSTEMS SPECIFIED IN THE CONTRACT DOCUMENTS WILL BE SUBMITTED BY THE GENERAL CONTRACTOR TO THE ARCHITECT PRIOR TO FABRICATION IN ORDER TO VERIFY GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS. SHOP DRAWINGS AND SUBMITTALS MUST BEAR A REVIEW STAMP FROM THE GENERAL CONTRACTOR PRIOR TO BEING SUBMITTED TO THE ARCHITECT. SHOP DRAWING REVIEW WILL NOT RELIEVE ANY PARTY FROM MAINTAINING COMPLIANCE WITH THE CONTRACT DOCUMENTS.
11. DETAILS MARKED AS "TYP" OR "TYPICAL" WILL APPLY IN ALL CASES, UNO.
12. ALL DIMENSIONS ARE TAKEN FROM GRID LINES OR FINISHED FACE OF WALL / PARTITION, UNO.

PROJECT INFORMATION

PROJECT DESCRIPTION

7,486 SF TENANT IMPROVEMENTS ALTERATIONS IN AN EXISTING OFFICE AREA. INCLUDES NON-BEARING PARTITIONS AND EXISTING NON-BEARING PARTITION ALTERATIONS, PATCH & REPAIR OF EXISTING INTERIOR FINISHES, NEW PAINT, NEW CEILING, NEW LIGHT FIXTURES, MINOR HVAC ALTERATIONS.

PROPERTY OWNER OF RECORD	ORANGE COUNTY DEPARTMENT OF EDUCATION
TENANT / CLIENT / DEPARTMENT / LESSEE	-
PROPERTY STRAP NO.	-
PROPERTY ADDRESS	3001 REDHILL AVENUE COSTA MESA, CA 92626
BUILDING DEPARTMENT (AHJ)	COSTA MESA
FIRE DISTRICT (AHJ)	-
FLOOD HAZARD AREA, CBC 1202: FEMA FLOOD ZONE	N/A
FFE PER NAVD 88	N/A
STRUCTURE SEAWARD OF COASTAL CONSTRUCTION LINE, CBC 3109	NO
BUILDING NOT PREVIOUSLY OCCUPIED, CBC 102.6.1	NO
SAFEGUARDS DURING CONSTRUCTION, CBC CH. 33	BY CONTRACTOR
USE & OCCUPANCY CLASSIFICATION	BUSINES (B) (CBC 302.1) (NFPA 6.1.2)
TYPE OF CONSTRUCTION	TYPE VB (CBC 602.1); TYPE V (000) (NFPA T12.1.6)
AUTOMATIC SPRINKLER SYSTEMS	NO - NFPA 13 (CBC 903.3) (NFPA 8.1.2)
FIRE ALARM SYSTEM	YES (CBC 907) (NFPA 9.6.1)
SMOKE COMPARTMENTS	NO
WIND DESIGN DATA, CBC 1603.1.4	SEE STRUCTURAL DRAWINGS

USE & OCCUPANCY CLASSIFICATION - (CBC CH. 3)

OCCUPANCY(S) OF THE BUILDING		**SINGLE OCCUPANCY GROUPS, CBC 302.2**	X
		MULTIPLE OCCUPANCY GROUP, CBC 302.1 & 509	

OCCUPANCY	GROUP	USE DESIGNATION
ASSEMBLY	**A-3**	BREAK ROOM, CONFERENCE ROOMS
BUSINESS	**B**	OFFICES
STORAGE	**S-1**	STORAGE

PARKING COUNT

TOTAL PARKING SPACES		PARKING TYPE	
REQUIRED	PROVIDED	HANDICAP	STANDARD
68	68	3	65

BUILDING ENERGY DATA (CA ENERGY CODE)

BUILDING COMPONENT	VALUE
ROOF	XXX
WALLS	XXX
WINDOWS	XXX

PLUMBING FIXTURE CALCULATIONS, CPC TABLE 422.1

CLASSIFICATION	TOTAL S.F.	OLF	OCCUPANT LOAD TOTAL	OCCUPANT LOAD MALE (50%)	OCCUPANT LOAD FEMALE (50%)	WATER CLOSETS MALE RATIO	WATER CLOSETS FEMALE RATIO	WATER CLOSETS (M/F)	WATER CLOSETS REQ'D	WATER CLOSETS PROV.	LAVATORIES (M/F)	LAVATORIES REQ'D	LAVATORIES PROV.	SHOWERS RATIO	SHOWERS REQ'D	SHOWERS PROV.	DRINKING FOUNTAINS RATIO	DRINKING FOUNTAINS REQ'D	DRINKING FOUNTAINS PROV.	SERVICE SINKS RATIO	SERVICE SINKS REQ'D	SERVICE SINKS PROV.
-A3 (ASSEMBLY)	1213	30	41	21	20	1:100	1:25	-	1	2	1:200	1	2	1:1000	0	0	1:1000	1	1	0	0	0
-B (BUSINESS)	4947	150	33	15	16	1:25	1:25	-	1	1	1:40	1	1	1:100	0	0	-	0	0	0	0	0
-S1 (STORAGE)	899	300	3	1	2	-	-	1:100	1	1	1:100	1	1	1:1000	0	0	-	0	0	0	0	0
TOTAL	7059		77						3	4		3	4		0	0		1	1		0	0

AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

LIFE SAFETY PLAN LEGEND

- (E) ITEM
- (N) ITEM
- AREA NOT IN SCOPE OF WORK
- (A) OCCUPANCY - ASSEMBLY
- (B) OCCUPANCY - BUSINESS
- (S) OCCUPANCY - STORAGE (ACCESSORY USE TO B-OCCUPANCY)
- EXIT DISCHARGE
- FE-1 — FIRE EXTINGUISHER CABINET C1 / A-550
- EXIT SIGN
- EGRESS DIRECTION
- OCCUPANT LOAD
- REQUIRED WIDTH
- ACTUAL WIDTH
- PANIC HARDWARE
- PROVIDED / REQUIRED

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. RONTAL NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

CODE ANALYSIS / LIFE SAFETY PLAN

SHEET #

G-020

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2025)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

Y | N/A | RESPON. PARTY

CHAPTER 3
GREEN BUILDING

SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.3 NONRESIDENTIAL ADDITIONS AND ALTERATIONS. [BSC-CG] The provisions of individual sections of Chapter 5 apply to newly constructed buildings, building additions of 1,000 square feet or greater, and/or building alterations with a permit valuation of $200,000 or above (for occupancies within the authority of California Building Standards Commission). Code sections relevant to additions and alterations shall only apply to the portions of the building being added or altered within the scope of the permitted work.

A code section will be designated by a banner to indicate where the code section only applies to newly constructed buildings [N] or to additions and/or alterations [A]. When the code section applies to both, no banner will be used.

301.3.1 Nonresidential additions and alterations that cause updates to plumbing fixtures only:

Note: On and after January 1, 2014, certain commercial real property, as defined in Civil Code Section 1101.3, shall have its noncompliant plumbing fixtures replaced with appropriate water-conserving plumbing fixtures under specific circumstances. See Civil Code Section 1101.1 et seq. for definitions, types of commercial real property affected, effective dates,circumstances necessitating replacement of noncompliant plumbing fixtures, and duties and responsibilities for ensuring compliance.

301.3.2 Waste Diversion. The requirements of Section 5.408 shall be required for additions and alterations whenever a permit is required for work.

301.4 PUBLIC SCHOOLS AND COMMUNITY COLLEGES. (see GBSC)
301.5 HEALTH FACILITIES. (see GBSC)

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

SECTION 303 PHASED PROJECTS

303.1 PHASED PROJECTS. For shell buildings and others constructed for future tenant improvements, only those code measures relevant to the building components and systems considered to be new construction (or newly constructed) shall apply.

303.1.1 Initial Tenant improvements. The provisions of this code shall apply only to the initial tenant improvements to a project. Subsequent tenant improvements shall comply with the scoping provisions in Section 301.3 non-residential additions and alterations.

ABBREVIATION DEFINITIONS:

HCD	Department of Housing and Community Development
BSC	California Building Standards Commission
DSA-SS	Division of the State Architect, Structural Safety
OSHPD	Office of Statewide Health Planning and Development
LR	Low Rise
HR	High Rise
AA	Additions and Alterations
N	New

CHAPTER 5
NONRESIDENTIAL MANDATORY MEASURES
DIVISION 5.1 PLANNING AND DESIGN

SECTION 5.101 GENERAL

5.101.1 SCOPE
The provisions of this chapter outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.

SECTION 5.102 DEFINITIONS

5.102.1 DEFINITIONS
The following terms are defined in Chapter 2 (and are included here for reference)

CUTOFF LUMINAIRES. Luminaires whose light distribution is such that the candela per 1000 lamp lumens does not numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of numerically exceed 25 (2.5 percent) at an angle of 90 degrees above nadir, and 100 (10 percent) at a vertical angle of 80 degrees above nadir. This applies to all lateral angles around the luminaire.

TENANT-OCCUPANTS. Building occupants who inhabit a building during its normal hours of operation as permanent occupants, such as employees, as distinguished from customers and other transient visitors.

ZEV. [BSC-CG, DSA-SS] Any vehicle certified to zero-emission standards.

SECTION 5.105 DECONSTRUCTION AND REUSE OF EXISTING STRUCTURES

5.105.1 Scope. [BSC-CG] Effective July 1, 2024, alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

[DSA-SS] Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3.

Exception [BSC-CG, DSA-SS]: Combined addition(s) to existing building(s) of two times the area or more of the existing building(s) is not eligible to meet compliance with Section 5.105.2.

5.105.2 Reuse of existing building. An alteration or addition to an existing building shall maintain at a minimum 45 percent combined of the existing building's primary structural elements (foundations; columns, beams, walls, and floors; and lateral elements) and existing building enclosure (roof framing, wall framing and exterior finishes). Window assemblies, insulation, portions of buildings deemed structurally unsound or hazardous, and hazardous materials that are remediated as part of the project shall not be included in the calculation.

5.105.2.1 Verification of compliance. Documentation shall be provided in the construction documents to demonstrate compliance with Section 5.105.2.

Note: Sample Worksheet WS-3 in Chapter 8 may be used to assist in documenting compliance with this section.

5.105.3 Deconstruction (Reserved).

SECTION 5.106 SITE DEVELOPMENT

5.106.1 STORM WATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB LESS THAN ONE ACRE OF LAND. Newly constructed projects and additions which disturb less than one acre of land, and are not part of a larger common plan of development or sale, shall prevent the pollution of storm water runoff from the construction activities through one or more of the following measures:

5.106.1.1 Local ordinance. Comply with a lawfully enacted storm water management and/or erosion control ordinance.

5.106.1.2 Best Management Practices (BMPs). Prevent the loss of soil through wind or water erosion by implementing an effective combination of erosion and sediment control and good housekeeping BMPs.

1. Soil loss BMPs that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Scheduling construction activity during dry weather, when possible.
   b. Preservation of natural features, vegetation, soil, and buffers around surface waters.
   c. Drainage swales or lined ditches to control stormwater flow.
   d. Mulching or hydroseeding to stabilize disturbed soils.
   e. Erosion control to protect slopes.
   f. Protection of storm drain inlets (gravel bags or catch basin inserts).
   g. Perimeter sediment control (perimeter silt fence, fiber rolls).
   h. Sediment trap or sediment basin to retain sediment on site.
   i. Stabilized construction exits.
   j. Wind erosion control.
   k. Other soil loss BMPs acceptable to the enforcing agency.

N/A

1. Good housekeeping BMPs to manage construction equipment, materials, non-stormwater discharges and wastes that should be considered for implementation as appropriate for each project include, but are not limited to, the following:
   a. Dewatering activities.
   b. Material handling and waste management.
   c. Building materials stockpile management.
   d. Management of washout areas (concrete, paints, stucco, etc.).
   e. Control of vehicle/equipment fueling to contractor's staging area.
   f. Vehicle and equipment cleaning performed off site.
   g. Spill prevention and control.
   h. Other housekeeping BMPs acceptable to the enforcing agency.

5.106.2 STORMWATER POLLUTION PREVENTION FOR PROJECTS THAT DISTURB ONE OR MORE ACRES OF LAND. Comply with all lawfully enacted stormwater discharge regulations for projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of a larger common plan of development sale.

Note: Projects that (1) disturb one acre or more of land, or (2) disturb less than one acre of land but are part of the larger common plan of development or sale must comply with the post-construction requirements detailed in the applicable National Pollutant Discharge Elimination System (NPDES) General permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities issued by the State Water Resources Control Board or the Lahontan Regional Water Quality Control Board (for projects in the Lake Tahoe Hydrologic Unit).

The NPDES permits require postconstruction runoff (post-project hydrology) to match the preconstruction runoff (pre-project hydrology) with the installation of postconstruction stormwater management measures. The NPDES permits emphasize runoff reduction through on-site stormwater use, interception, evapotranspiration, and infiltration through nonstructural controls, such as Low Impact Development (LID) practices, and conversation design measures. Stormwater volume that cannot be addressed using nonstructural practices is required to be captured in structural practices and be approved by the enforcing agency.

Refer to the current applicable permits on the State Water Resources Control Board website at: www.waterboards.ca.gov/constructionstormwater. Consideration to the stormwater runoff management measures should be given during the initial design process for appropriate integration into site development.

5.106.4 BICYCLE PARKING. For buildings within the authority of California Building Standards Commission as specified in Section 103, comply with Section 5.106.4.1. For buildings within the authority of the Division of the State Architect pursuant to Section 105, comply with Section 5.106.4.2

5.106.4.1 Bicycle parking. [BSC-CG] Comply with Sections 5.106.4.1.1 and 5.106.4.1.2; or meet the applicable local ordinance, whichever is stricter.

5.106.4.1.1 Short-term bicycle parking. If the new project or an addition or alteration is anticipated to generate visitors, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 20% of the peak daily visitors, with a minimum of one two-bike capacity rack.

Exception: Additions or alterations which add nine or less visitor vehicular parking spaces.

5.106.4.1.2 Long-term bicycle parking. Acceptable bicycle parking facility for Section 5.106.4.1.2.1, 5.106.4.1.2.2 and 5.106.4.1.23 shall be conveniently located near the street and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

Calculations for bicycle parking requirements shall be rounded up to the nearest whole number.

5.106.4.1.2.1
For new buildings with tenant spaces, provide secure bicycle parking for 10 percent of the tenant-occupants, with a minimum of one bicycle parking facility.

5.106.4.1.2.2
For additions or alternations, provide secure bicycle parking for 10 percent of the tenant-occupants being added, with a minimum of one bicycle parking facility.

5.106.4.1.2.3
For new shell buildings in phased projects, provide secure bicycle parking for 10 percent of the anticipated tenant-occupants, with a minimum of one bicycle parking facility.

5.106.4.2 Bicycle parking. [DSA-SS] For public schools and community colleges, comply with Sections 5.106.4.2.1 and 5.106.4.2.2

5.106.4.2.1 Student bicycle parking. Provide permanently anchored bicycle racks conveniently accessed with a minimum of four two-bike capacity racks per new building.
5.106.4.2.2 Staff bicycle parking. Provide permanent, secure bicycle parking conveniently accessed with a minimum of two staff bicycle parking spaces per new building. Acceptable bicycle parking facilities shall be convenient from the street or staff parking area and shall meet one of the following:

1. Covered, lockable enclosures with permanently anchored racks for bicycles;
2. Lockable bicycle rooms with permanently anchored racks; or
3. Lockable, permanently anchored bicycle lockers.

5.106.5.3 Electric vehicle (EV) charging. [N] [BSC-CG] Construction to provide electric vehicle infrastructure and facilitate electric vehicle charging shall comply with Section 5.106.5.3.1 EV capable spaces, Section 5.106.5.3.2 Electric vehicle charging stations and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 Electric vehicle charging stations (EVCS)—Power allocation method and associated Table 5.106.5.3.6 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
2. Where there is no local utility power supply
3. Where the local utility is unable to supply adequate power.
4. Where there is evidence suitable to the local enforcement agency substantiating the local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
5. Areas of parking facilities served by parking lifts, including but not limited to, automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

5.106.5.3.1 EV capable spaces. [N] EV capable spaces shall be provided in accordance with Table 5.106.5.3.1 and the following requirements:
1. Raceways complying with the California Electrical Code and no less that 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area, and shall terminate in close proximity to the proposed location of the EV capable and into a suitable listed cabinet, box,enclosure or equivalent. A common raceway may be used to serve multiple EV charging spaces.
2. A service panel or subpanel (s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.
3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.
4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective devices space(s) as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

N/A

Note: A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by an enforcement agency. See vehicle Code Section 22511.2 for further details.

TABLE 5.106.5.3.1 EV CAPABLE SPACES AND EVCS

TOTAL NUMBER OF ACTUAL PARKING SPACES	NUMBER OF REQUIED EV CAPABLE SPACES	OTHER THAN OFFICE AND RETAIL NUMBER OF REQUIRED ECVS^	OFFICE AND RETAIL NUMBER OF REQUIRED ECVS^
1-9	0	0	0
10-25	4	2	3
26-50	8	4	6
51-75	13	6	8
76-100	17	8	13
101-150	25	12	19
151-200	35	18	26
201 AND OVER	20 PERCENT OF ACTUAL PARKING SPACES	50 PERCENT OF EV CAPABLE SPACES	75 PERCENT OF EV CAPABLE SPACES

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. Each EVCS shall reduce the number of required capable spaces by the same number.
3. At least one Level 2 EVSE shall be provided.

5.106.5.3.2 Electric vehicle charging stations (EVCS) EV capable spaces shall be provided with electric vehicle supply equipment (EVSE) to create EVCS in the number indicated in Table 5.106.5.3.1. The EVCS required by Table 5.106.5.3.1 shall be provided with Level 2 EVSE or DCFC as permitted in Section 5.106.5.3.2.3. At least one Level 2 EVSE shall be provided.

One EV charger with multiple connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.3.1 for each EV capable space is accumulatively supplied to the EV charger.

5.106.5.3.2.1 Receptacle configurations. 208/240V EV charging receptacles shall comply with one of the following configurations:
1. For 20-ampere receptacles, NEMA 6-20R
2. For 30-ampere receptacles, NEMA 14-30R
3. For 50-ampere receptacles, NEMA 14-50R

5.106.5.3.2.2 EV charger connectors. EV chargers shall be equipped with SAE J1772 with a maximum output 240 Volts AC or SAE J3400 connectors.When using level 2 SAE J3400 SAE connectors, supplied by a 480 V 3-phase service, at least 20 percent of the EV charger connectors shall be SAE J1772 with a maximum output 240 Volts AC.

5.106.5.3.2.3 The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces without EVSE or EVCS with Level 2 EVSE by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.3.2.4 The installation of two low power Level 2 EV charging receptacles shall be permitted to reduce the minimum number of required EV capable spaces without EVSE in Table 5.106.5.3.1 by one.

5.106.5.3.2.4.1 Raceway capacity requirements. To allow for future upgrades to the electrical conductors serving low power Level 2 charging receptacles, the listed raceway serving such receptacles shall be sized to allow the installation of a dedicated 208/240-volt 40-ampere branch circuit. Where no raceway is used, the conductors shall be sized to accommodate a 208/240-volt 40-ampere receptacle.

5.106.5.3.3 Use of automatic load management systems (ALMS).
ALMS shall be permitted for EVCS. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.3.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.5.3.4 Accessible EVCS.
When EVSE is installed, accessible EVSC shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3.

Note: For EVCS signs, refer to Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

5.106.5.3.4 Accessible electric vehicle charging station (EVCS). When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3.

5.106.5.3.5 Electric vehicle charging station signage. Electric vehicle charging stations shall be identified by signage or pavement markings in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

Power allocation method shall include the following:
1. Use any kVA combination of EV capable spaces, low power Level 2, Level 2 or DCFC EVSEs.
2. At least one Level 2 EVSE shall be provided.

5.106.5.3.6 Electric vehicle charging stations (EVCS)—power allocation method. The power allocation method may be used as an alternative to the requirements in Section 5.106.5.3.1, Section 5.106.5.3.2 and associated Table 5.106.5.3.1. Use Table 5.106.5.3.6 to determine the total power in kVA required based on the total number of actual parking spaces.

TABLE 5.106.5.3.6 POWER ALLOCATION METHOD

TOTAL NUMBER OF ACTUAL PARKING SPACES.	MINIMUM TOTAL kVA @ 6.6 kVA	OTHER THAN OFFICE AND RETAIL TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE LOW POWER LEVEL 2, LEVEL 2 OR DCFC	OFFICE AND RETAIL TOTAL kVA REQUIRED IN ANY COMBINATION OF EV CAPABLE LOW POWER LEVEL 2, LEVEL 2 OR DCFC
1-9	0	0	0
10-25	26.4	26.4	26.4
26-50	52.8	52.8	52.8
51-75	85.8	85.8	85.8
76-100	112.2	112.2	112.2
101-150	165	165	165
151-200	231	231	231
201 AND OVER	20 PERCENT OF ACTUAL PARKING SPACES X 6.6	TOTAL REQUIRED kVA = P X .20 X 6.6 WHERE P = PARKING SPACES IN FACILITY	TOTAL REQUIRED kVA = P X .20 X 6.6 WHERE P = PARKING SPACES IN FACILITY

1. Level 2 EVSE @ 6.6 kVA minimum.
2. At least one Level 2 EVSE shall be provided.
3. Maximum allowed kVA to be utilized for EV capable spaces is 75 percent.
4. If EV capable spaces are utilized, they shall meet the requirements of Section 5.106.5.3.1 EV capable spaces.
5. For Office and Retail buildings the maximum allowed kVA to be utilized for EV capable is 25 percent.

5.106.5.3.6.1 Receptacle configurations. 208/240V EV charging receptacles shall comply with one of the following configurations:
1. For 20-ampere receptacles, NEMA 6-20R.
2. For 30-ampere receptacles, NEMA 14-30R.
3. For 50-ampere receptacles, NEMA 14-50R.

5.106.5.3.6.2 EV Charger connectors. EV chargers shall be equipped with SAE J1772 with a maximum output 240 Volts AC or SAE J3400 connectors. When using level 2 SAE J3400 connectors, supplied by a 480 V 3-phase service, at least 20 percent of the EV charger connectors shall be SAE J1772 with a maximum output 240 Volts AC.

5.106.5.3.6.3 Raceway capacity requirements. To allow for future upgrades to the electrical conductors serving low power Level 2 charging receptacles, the listed raceway serving such receptacles shall be sized to allow the installation of a dedicated 208/240-volt 40-ampere branch circuit. Where no raceway is used, the conductors shall be sized to accommodate a 208/240-volt 40-ampere receptacle.

5.106.5.4 Additions or alterations to existing buildings or parking facilities [A]. [BSC-CG] Existing buildings or parking facilities being modified by one of the following shall comply with Section 5.106.5.4.1 or 5.106.5.4.2. When EVSE is installed, accessible EVCS shall be provided in accordance with the California Building Code, Chapter 11B, Section 11B-228.3.

1. When the scope of construction work includes an increase in power supply to an electric service panel as part of a parking facility addition or alteration.
2. When a new photovoltaic system is installed covering existing parking spaces.
3. When additions or alterations to existing buildings are triggered pursuant to code Section 301.3 and the scope of work includes an increase in power supply to an electric service panel.

Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
   a. Where there is no local utility power supply.
   b. Where the local utility is unable to supply adequate power.
   c. Where there is evidence suitable to the local enforcement agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.
   d. Where demonstrated as impracticable excluding local utility service or utility infrastructure issues.
2. Remote parking facilities that do not have access to the building service panel.
3. Parking area lighting upgrades where no trenching is part of the scope of work.
4. Emergency repairs, including but not limited to water line break in parking facilities, natural disaster repairs, etc.

5.106.5.4.1 Existing buildings or parking areas without previously installed EV capable infrastructure [A]. When EV capable infrastructure does not exist at an existing parking facility or building, and the parking facility or building undergoes an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6 for the total number of actual parking spaces being added or altered.

5.106.5.4.2 Existing buildings or parking areas with previously installed EV capable infrastructure [A]. When EV capable infrastructure is available at an existing parking facility or building, and the parking facility or building is undergoing an addition or alteration listed in Section 5.106.5.4, construction shall include electric vehicle charging in compliance with either Section 5.106.5.3 and associated Table 5.106.5.3.1, or Section 5.106.5.3.6 and associated Table 5.106.5.3.6. Install EVCS at all existing EV capable spaces, utilizing the existing EV capable allocated power and infrastructure for the total number of actual parking spaces being added or altered, prior to adding any new EV capable spaces. If the area being added or altered exceeds the existing EV capable capacity, allocated power and infrastructure, provide additional EV charging as needed to comply with this section.

N/A

5.106.5.5 Electric vehicle (EV) charging: medium-duty and heavy-duty. [N] [BSG-CG] Construction shall comply with Section 5.106.5.5.1 to facilitate future installation of electric vehicle supply equipment (EVSE). Construction for warehouses, grocery stores and retail stores, office buildings, and manufacturing facilities with planned off-street loading spaces shall also comply with Section 5.106.5.5.1 for future installation of medium- and heavy-duty EVSE.

Exceptions:
1. On a case-by-case basis where the local enforcing agency has determined compliance with this section is not feasible based upon one of the following conditions:
2. Where there is no local utility power supply.
3. Where the local utility is unable to supply adequate power.
4. Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 5.106.5.3, may adversely impact the construction cost of the project.

When EVSE(s) is/are installed, it shall be in accordance with the California Building Code, the California Electrical Code and as follows:

5.106.5.5.1 Electric vehicle charging readiness requirements for warehouses, grocery stores, office buildings, and manufacturing facilities and retail stores with planned off-street loading spaces. [N]

In order to avoid future demolition when adding EV supply and distribution equipment, spare raceway(s) or busway(s) and adequate capacity for transformer(s), service panel(s) or subpanel(s) shall be installed at the time of construction in accordance with the California Electrical Code. Construction plans and specifications shall include, but are not limited to, the following:

1. The transformer, main service equipment and subpanels shall meet the minimum power requirement in Table 5.106.5.5.1 to accommodate the dedicated branch circuits for the future installation of EVSE.

2. The construction documents shall indicate one or more location(s) convenient to the planned off-street loading space(s) reserved for medium- and heavy-duty ZEV charging cabinets and charging dispensers, and a pathway reserved for routing of conduit from the termination of the raceway(s) or busway(s) to the charging cabinet(s) and dispenser(s), as shown in Table 5.106.5.5.1.

3. Raceway(s) or busway(s) originating at a main service panel or a subpanel(s) serving the area where potential future medium- and heavy-duty EVSE will be located and shall terminate in close proximity to the potential future location of the charging equipment for medium- and heavy-duty vehicles.

4. The raceway(s) or busway(s) shall be of sufficient size to carry the minimum additional system load to the future location of the charging for medium- and heavy-duty ZEVs as shown in Table 5.106.5.5.1.

TABLE 5.106.5.5.1 RACEWAY CONDUIT AND PANEL POWER REQUIREMENTS FOR MEDIUM- AND HEAVY-DUTY EVSE

BUILDING TYPE	BUILDING SIZE (SQ. FT.)	NUMBER OF OFF-STREET LOADING SPACES	ADDITIONAL CAPACITY REQUIRED (KVA) FOR RACEWAY & BUSWAY AND TRANSFORMER & PANEL
GROCERY	10,000 TO 90,000	1 OR 2	200
		3 OR GREATER	400
	GREATER THAN 90,000	1 OR GREATER	400
MANUFACTURING FACILITIES	10,000 TO 50,000	1 OR 2	200
	10,000 TO 50,000	3 OR GREATER	400
	GREATER THAN 50,000	1 OR GREATER	400
OFFICE BUILDINGS	10,000 TO 135,000	1 OR 2	200
	10,000 TO 135,000	3 OR GREATER	400
	GREATER THAN 135,000	1 OR GREATER	400
RETAIL	10,000 TO 135,000	1 OR 2	200
		3 OR GREATER	400
	GREATER THAN 135,000	1 OR GREATER	400
WAREHOUSE	20,000 TO 256,000	1 OR 2	200
		3 OR GREATER	400
	GREATER THAN 256,000	1 OR GREATER	400

5.106.5.6 Electric vehicle (EV) charging at public schools and community colleges. [DSA-SS] Electric vehicle infrastructure and electric vehicle charging stations shall comply with Section 5.106.5.6 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

Exceptions:
1. On a case-by-case basis where compliance with this section has been demonstrated to be not feasible based upon one of the following conditions,and with concurrence by the Division of the State Architect (DSA), compliance with Section 5.106.5.6 shall not be required.
   a. Where there is no local utility power supply.
   b. Where the local utility is unable to supply adequate power.
   c. The installation of EVCS is impracticable.
2. Parking spaces accessible only by automated mechanical car parking systems are not required to comply with Section 5.106.5.6.

5.106.5.6.1 EV capable spaces. EV capable spaces shall be provided in accordance with Table 5.106.5.6.1 and the following requirements:

1. Raceways complying with the California Electrical Code and no less than 1-inch (25 mm) diameter shall be provided and shall originate at a service panel or a subpanel(s) serving the area and shall terminate in close proximity to the proposed location of the EV capable space and into a suitable listed cabinet, box, enclosure or equivalent. A common raceway may be used to serve multiple EV capable spaces.

2. A service panel or subpanel(s) shall be provided with panel space and electrical load capacity for a dedicated 208/240 volt, 40-ampere minimum branch circuit for each EV capable space, with delivery of 30-ampere minimum to an installed EVSE at each EVCS.

3. The electrical system and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each EV capable space.

4. The service panel or subpanel circuit directory shall identify the reserved overcurrent protective device space(s) as "EV CAPABLE." The raceway termination location shall be permanently and visibly marked as "EV CAPABLE."

TABLE 5.106.5.6.1

TOTAL NUMBER OF ACTUAL PARKING SPACES..	NUMBER OF REQUIRED EV CAPABLE SPACES	NUMBER OF REQUIRED EVCS
0-9	0	0
10-25	4	1
26-50	8	2
51-75	13	3
76-100	17	4
101-150	25	6
151-200	35	9
201 AND OVER	20 PERCENT OF TOTAL SPACES	25 PERCENT OF EV CAPABLE SPACES

5.106.5.6 Electric vehicle (EV) charging at public schools and community colleges. [DSA-SS] Electric vehicle infrastructure and electric vehicle charging stations shall comply with Section 5.106.5.6 and shall be provided in accordance with regulations in the California Building Code and the California Electrical Code.

1. Calculation for spaces shall be rounded up to the nearest whole number.
2. Each EVCS shall reduce the number of required EV capable spaces by the same number.

5.106.5.6.2 Electric vehicle charging stations (EVCS). EV capable spaces shall be provided with EVSE to create EVCS in the number indicated in Table 5.106.5.6.1 and shall comply with Section 5.106.5.6.2. EVCS shall be serviced by Level 2 or Direct Current Fast Charging (DCFC) EVSE, or with EVSE in any combination of Level 2 and DCFC. Accessible EVCS shall be provided in accordance with California Building Code Chapter 11B.

5.106.5.6.2.1 Reduced number of EV capable spaces. The installation of each DCFC EVSE shall be permitted to reduce the minimum number of required EV capable spaces indicated in Table 5.106.5.6.1 by five and reduce proportionally the required electrical load capacity to the service panel or subpanel.

5.106.5.6.2.2 Multiple connectors. EVSE with multiple vehicle connectors capable of charging multiple EVs simultaneously shall be permitted if the electrical load capacity required by Section 5.106.5.6.1 for each EV capable space is accumulatively supplied to the EVSE.

5.106.5.6.2.3 Use of automatic load management systems (ALMS). ALMS shall be permitted for EVCS installed in accordance with Section 5.105.5.6.2. When ALMS is installed, the required electrical load capacity specified in Section 5.106.5.6.1 for each EVCS may be reduced when serviced by an EVSE controlled by an ALMS. Each EVSE controlled by an ALMS shall deliver a minimum 30 amperes to an EV when charging one vehicle and shall deliver a minimum 3.3 kW while simultaneously charging multiple EVs.

5.106.5.6.3 EVCS alternative compliance. In lieu of compliance with Section 5.106.5.6.2, EVCS shall be provided with Level 1, low power Level 2, or Level 2, or any combination of Level 1, low power Level 2 or Level 2 EVSE such that the total power supplied by the combination of EVSE meets the minimum power indicated in Table 5.106.5.6.3, based on the total number of actual parking spaces in each parking facility.

TABLE 5.106.5.6.3

NUMBER OF PARKING SPACES IN A PARKING FACILITY	MINIMUM TOTAL POWER (KVA) REQUIRED FOR EVCS
0-9	0
10-25	7
26-50	14
51-75	20
76-100	27
101-150	40
151-200	60
201 AND OVER	TOTAL REQUIRED KVA = P X .05 X 6.6 WHERE P = PARKING SPACES IN FACILITY

N/A

5.106.5.6.4 EVCS for alterations of or additions to parking facilities. Alterations of or additions to parking facilities shall provide EVCS in compliance with Section 5.106.5.6.4. The installation of infrastructure for EV capable spaces required to be provided without EVSE shall not be required.

5.106.5.6.4.1 Alterations of and additions to parking facilities. EVCS shall be provided in accordance with the number indicated in Table 5.106.5.6.1 or minimum power indicated in Table 5.106.5.6.3 when the scope of work includes an increase in power supply to an electric panel serving light fixtures illuminating the parking area or when area containing parking spaces is added to a parking facility. The number of required EVCS shall be based on the total number of existing and new parking spaces in the parking facility.

5.106.5.6.4.2 Alterations consisting of the installation of photovoltaic systems. EVCS shall be provided in accordance with the number indicated in Table 5.106.5.6.1 or maximum power indicated in Table 5.106.5.6.3 when a new photovoltaic system is installed in an existing parking facility.

5.106.5.6.5 Requirement to install EVSE. Level 2 EVSE shall be provided in all existing EV capable spaces to create EVCS when a project is required by California Administrative Code Section 4-309 to be submitted for plan approval to the Division of the State Architect. When EVSE is installed in existing EV capable spaces, accessible EVCS shall be provided in accordance with *California Building Code* Chapter 11B.

Exception: Projects in which improvements in parking areas consist only of accessibility improvements are not required to comply with Section 5.106.5.6.5.

5.106.8 LIGHT POLLUTION REDUCTION. [N]. I Outdoor lighting systems shall be designed and installed to comply with the following:

1. The minimum requirements in the California Energy Code for Lighting Zones 0-4 as defined in Chapter 10, Section 10-114 of the California Administrative Code; and
2. Backlight (B) ratings as defined in IES TM-15-11 (shown in Table A-1 in Chapter 8);
3. Uplight and Glare ratings as defined in California Energy Code (shown in Tables 130.2-A and 130.2-B in Chapter 8) and
4. Allowable BUG ratings not exceeding those shown in Table 5.106.8, [N] or Comply with a local ordinance lawfully enacted pursuant to Section 101.7, whichever is more stringent.

Exceptions: [N]

1. Luminaires that qualify as exceptions in Sections 130.2 (b) and 140.7 of the California Energy Code.
2. Emergency lighting.
3. Building facade meeting the requirements in Table 140.7-B of the California Energy Code, Part 6.
4. Custom lighting features as allowed by the local enforcing agency, as permitted by Section 101.8 Alternate materials, designs and methods of construction.
5. Luminaires with less than 6,200 initial luminaire lumens.

TABLE 5.106.8 (N) MAXIMUM ALLOWABLE BACKLIGHT UPLIGHT AND GLARE (BUG) RATINGS

ALLOWABLE RATING	LIGHTING ZONE LZ0	LIGHTING ZONE LZ1	LIGHTING ZONE LZ2	LIGHTING ZONE LZ3	LIGHTING ZONE LZ4
MAXIMUM ALLOWABLE BACKLIGHT RATING					
LUMINAIRE GREATER THAN 2 MOUNTING HEIGHTS (MH) FROM PROPERTY LINE	N/A	NO LIMIT	NO LIMIT	NO LIMIT	NO LIMIT
LUMINAIRE BACK HEMISPHERE IS 1-2 MH FROM PROPERTY LINE	N/A	B2	B3	B4	B4
LUMINAIRE BACK HEMISPHERE IS 0.5-1 MH FROM PROPERTY LINE	N/A	B1	B2	B3	B3
LUMINAIRE BACK HEMISPHERE IS LESS THAN 0.5 MH FROM PROPERTY LINE	N/A	B0	B0	B1	B2
MAXIMUM ALLOWABLE UPLIGHT RATING (U)					
FOR AREA LIGHTING	N/A	U0	U0	U0	U0
FOR ALL OTHER LIGHTING, INCLUDING DECORATIVE LUMINAIRES	N/A	U1	U2	U3	UR
MAXIMUM ALLOWABLE GLARE RATING (G)					
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G1	G2	G3	G4
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G0	G1	G1	G2
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G0	G0	G1	G1
MAXIMUM ALLOWABLE GLARE RATING (G)	N/A	G0	G0	G0	G1

1. IESNA Lighting Zones 0 and 5 are not applicable; refer to Lighting Zones as defined in the *California Energy Code* and Chapter 10 of the *California Administrative Code.*
2. For property lines that abut public walkways, bikeways, plazas and parking lots, the property line may be considered to be 5 feet beyond the actual property line for purpose of determining compliance with this section. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public transit corridor for the purpose of determining compliance with this section.
3. General lighting luminaires in areas such as outdoor parking, sales or storage lots shall meet these reduced ratings. Decorative luminaries located in these areas shall meet *U*-value limits for "all other outdoor lighting"

5.106.8.1 Facing- Backlight
Luminaries within 2MH of a property line shall be oriented so that the nearest property line is behind the fixture, and shall comply with the backlight rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point of that property line.

Exception: Corners. If two property lines (or two segments of the same property line) have equidistant point to the luminaire, then the luminaire may be oriented so that the intersection of the two lines (the corner) is directly behind the luminaire. The luminaire shall still use the distance to the nearest points(s) on the property lines to determine the required backlight rating.

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE 10/07/2026

PROJECT # 026.0084.00

DESIGN PROFESSIONAL

LICENSED ARCHITECT
JASON A. PONTIE
NO. C-32176
REN. 07-31-27
STATE OF CALIFORNIA

TITLE
CALGREEN CHECKLIST

SHEET #
G-030

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2025)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

Y | N/A | RESPON. PARTY

N/A

5.106.8.2 Facing-Glare.
For luminaires covered by 5.106.8.1, if a property line also exists within or extends into the front hemisphere within 2MH of the luminaire then the luminaire shall comply with the more stringent glare rating specified in Table 5.106.8 based on the lighting zone and distance to the nearest point on the nearest property line within the front hemisphere.

Note: [N]
1. See also *California Building Code*, Chapter 12, Section 1205.6 for college campus lighting requirements for parking facilities and walkways.
2. Refer to Chapter 8 (Compliance Forms, Worksheets and Reference Material) for IES TM-15-11 Table A-1, *California Energy Code* Tables 130.2-A and 130.2-B.
3. Refer to the *California Building Code* for requirements for additions and alterations.

5.106.10 GRADING AND PAVING. Construction plans shall indicate how site grading or a drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

1. Swales.
2. Water collection and disposal systems.
3. French drains.
4. Water retention gardens.
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

5.106.12 SHADE TREES [DSA-SS]. Shade Trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.

5.106.12.1 Surface parking areas. Shade tree plantings, minimum #10 container size or equal, shall be installed to provide shade over 50 percent of the parking area within 15 years.

Exceptions: Surface parking area covered by solar photovoltaic shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.

5.106.12.2 Landscape areas. Shade tress plantings, minimum #10 container size or equal shall be installed to provide shade of 20% of the landscape area within 15 years.

Exceptions: Playfields for organized sport activity are not included in the total area calculation.

5.106.12.3. Hardscape areas. Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 20 percent of the hardscape area within 15 years.

Exceptions:
1. Walks, hardscape areas covered by solar photovoltaic shade structures or shade structures with roofing materials that comply with Table A5.106.11.2.2 in Appendix A5 shall be permitted in whole or in part in lieu of shade tree planting.
2. Designated and marked play areas of organized sport activity are not included in the total area calculation.

DIVISION 5.2 ENERGY EFFICIENCY

SECTION 5.201 GENERAL

M-XXX

5.201.1 Scope [BSC-CG]. *California Energy Code [DSA-SS]*. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory building standards.

DIVISION 5.3 WATER EFFICIENCY AND CONSERVATION

SECTION 5.301 GENERAL

5.301.1 Scope. The provisions of this chapter shall establish the means of conserving water use indoors, outdoors and in wastewater conveyance.

SECTION 5.302 DEFINITIONS

5.302.1 Definitions. The following terms are defined in Chapter 2 *(and are included here for reference)*

EVAPOTRANSPIRATION ADJUSTMENT FACTOR (ETAF) [DSA-SS]. An adjustment factor when applied to reference evapotranspiration that adjusts for plant factors and irrigation efficiency, which ae two major influences on the amount of water that needs to be applied to the landscape.

FOOTPRINT AREA [DSA-SS]. The total area of the furthest exterior wall of the structure projected to natural grade, not including exterior areas such as stairs, covered walkways, patios and decks.

METERING FAUCET. A self-closing faucet that dispenses a specific volume of water for each actuation cycle. The volume or cycle duration can be fixed or adjustable.

GRAYWATER. Pursuant to Health and Safety Code Section 17922.12, "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines and laundry tubs, but does not include waste water from kitchen sinks or dishwashers.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). The California ordinance regulating landscape design, installation and maintenance practices that will ensure commercial, multifamily and other developer installed landscapes greater than 2500 square feet meet an irrigation water budget developed based on landscaped area and climatological parameters.

MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO). [HCD] The California model ordinance (California Code of Regulations, Title 23, Division 2, Chapter 2.7), regulating landscape design, installation and maintenance practices. Local agencies are required to adopt the updated MWELO, or adopt a local ordinance at least as effective as the MWELO.

POTABLE WATER. Water that is drinkable and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards. See definition in the California Plumbing Code, Part 5.

POTABLE WATER. [HCD] Water that is satisfactory for drinking, culinary, and domestic puroses, and meets the U.S. Environmental Protection Agency (EPA) Drinking Water Standards and the requirements of the Health Authority Having Jurisdiction.

RECYCLED WATER. Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur [Water Code Section 13050 (n)]. Simply put, recycled water is water treated to remove waste matter attaining a quality that is suitable to use the water again.

SUBMETER. A meter installed subordinate to a site meter. Usually used to measure water intended for one purpose, such as landscape irrigation. For the purposes of CALGreen, a dedicated meter may be considered a submeter.

WATER BUDGET. Is the estimated total landscape irrigation water use which shall not exceed the maximum applied water allowance calculated in accordance with the Department of Water Resources Model Efficient Landscape Ordinance (MWELO).

SECTION 5.303 INDOOR WATER USE

5.303.1 METERS. Separate submeters or metering devices shall be installed for the uses described in Sections 503.1.1 and 503.1.2.

N/A

5.303.1.1 Buildings in excess of 50,000 square feet. Separate submeters shall be installed as follows:

1. For each individual leased, rented or other tenant space within the building projected to consume more than 100 gal/day (380 L/day), including, but not limited to, spaces used for laundry or cleaners, restaurant or food service, medical or dental office, laboratory, or beauty salon or barber shop.
2. Where separate submeters for individual building tenants are unfeasible, for water supplied to the following subsystems:
   a. Makeup water for cooling towers where flow through is greater than 500 gpm (30 L/s).
   b. Makeup water for evaporative coolers greater than 6 gpm (0.04 L/s).
   c. Steam and hot water boilers with energy input more than 500,000 Btu/h (147 kW).

5.303.1.2 Excess consumption. A separate submeter or metering device shall be provided for any tenant within a new building or within an addition that is projected to consume more than 1,000 gal/day.

5.303.3 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:

5.303.3.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-Type toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

N/A

5.303.3.2 Urinals.
5.303.3.2.1 Wall-mounted Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush.

5.303.3.2.2 Floor-mounted Urinals. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.

5.303.3.3 Showerheads. [BSC-CG]
5.303.3.3.1 Single showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

5.303.3.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time.
Note: A hand-held shower shall be considered a showerhead.

5.303.3.4 Faucets and fountains.
5.303.3.4.1 Nonresidential Lavatory faucets. Lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi.

5.303.3.4.2 Kitchen faucets. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

5.303.3.4.3 Wash fountains. Wash fountains shall have a maximum flow rate of not more than1.8 gallons per minute/20 [rim space (inches) at 60 psi].

5.303.3.4.4 Metering faucets. Metering faucets shall not deliver more than 0.20 gallons per cycle.

5.303.3.4.5 Metering faucets for wash fountains. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per minute/20 [rim space (inches) at 60 psi].

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

5.303.3.4.6 Pre-rinse spray value
When installed, commercial pre-rinse spray valves shall meet the requirements in the California Plumbing Code, Section 420.3.

5.303.4 COMMERCIAL KITCHEN EQUIPMENT.

5.303.4.1 Food Waste Disposers. Disposers shall either modulate the use of water to no more than 1 gpm when the disposer is not in use (not actively grinding food waste/no-load) or shall automatically shut off after no more than 10 minutes of inactivity. Disposers shall use no more than 8 gpm of water.
Note: This code section does not affect local jurisdiction authority to prohibit or require disposer installation.

5.303.5 AREAS OF ADDITION OR ALTERATION. For those occupancies within the authority of the California Building Standards Commission as specified in Section 103, the provisions of Section 5.303.3 and 5.303.4 shall apply to new fixtures in additions or areas of alteration to the building.

5.303.6 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table 1701.1 of the *California Plumbing Code* and in Chapter 6 of this code.

N/A

SECTION 5.304 OUTDOOR WATER USE

5.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

Notes:
1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 2.7, Division 2.
2. MWELO and supporting documents, including a water budget calculator, are available at: https://www.water.ca.gov/.

5.304.6 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. For public schools and community colleges, landscape projects as described in Sections 5.304.6.1 and 5.304.6.2 shall comply with the California Department of Water Resources Model Water Efficient Landscape Ordinance (MWELO) commencing with Section 490 of Chapter 2.7, Division 2, Title 23, *California Code of Regulations*, except that the evapotranspiration adjustment factor (ETAF) shall be 0.65 with an additional water allowance for special landscape areas (SLA) of 0.35.

Exception: Any project with an aggregate landscape area of 2,500 square feet or less may comply with the prescriptive measures contained in Appendix D of the MWELO.

5.304.6.1 Newly constructed landscapes. New construction projects with an aggregate landscape area equal to or greater than 500 square feet.

5.304.6.2 Rehabilitated landscapes. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 1,200 square feet.

DIVISION 5.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

SECTION 5.401 GENERAL

5.401.1 SCOPE. The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing and adjusting.

SECTION 5.402 DEFINITIONS

5.402.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ADJUST. To regulate fluid flow rate and air patterns at the terminal equipment, such as to reduce fan speed or adjust a damper.

BALANCE. To proportion flows within the distribution system, including sub-mains, branches and terminals, according to design quantities.

BUILDING COMMISSIONING. A systematic quality assurance process that spans the entire design and construction process, including verifying and documenting that building systems and components are planned, designed, installed, tested, operated and maintained to meet the owner's project requirements.

N/A

BUY CLEAN CALIFORNIA ACT (BCCA). The Buy Clean California Act (BCCA) (Public Contract Code Sections 3500-3505) targets carbon emissions associated with the production of structural steel (hot-rolled sections, hollow structural sections, and plate), concrete reinforcing steel, flat glass, and mineral wool board insulation. The maximum acceptable global warming potential (GWP) limits are established by the Department of General Services (DGS), in consultation with the California Air Resources Board (CARB).

CRADLE-TO-GRAVE. Activities associated with a product or building's life cycle from the extraction stage through disposal stage, and covering modules A1 through C4 in accordance with ISO Standards 14025 and 21930.

ORGANIC WASTE. Food waste, green waste, landscape and pruning wste, nonhazardous wood waste, and food soiled paper waste that is mixed in with food waste.

REFERENCE STUDY PERIOD. The period of use for the building, in years, that will be assumed for life cycle assessment.

TEST. A procedure to determine quantitative performance of a system or equipment

TYPE III ENVIRONMENTAL PRODUCT DECLARATION (EPD). A third-party verified report that summarizes how a product impacts the environment. Type III EPDs can be either product-specific, factory-specific, or industry-wide EPDs. See "Cradle-to-Gate."

FACTORY-SPECIFIC EPD. A product-specific Type III EPD in which the environmental impacts can be attributed to a single manufacturer and manufacturing facility.

INDUSTRY-WIDE EPD (IW-EPD). A Type III EPD in which the environmental impacts are an average of the typical manufacturing impacts for a range of products within the same product category for a group of manufacturers.

PRODUCT-SPECIFIC EPD. A Type III EPD in which the environmental impacts can be attributed to a product design and manufacturer across multiple facilities.

SECTION 5.407 WATER RESISTANCE AND MOISTURE MANAGEMENT

5.407.1 WEATHER PROTECTION. Provide a weather-resistant exterior wall and foundation envelope as required by California Building Code Section 1402.2 (Weather Protection), manufacturer's installation instructions or local ordinance, whichever is more stringent.

5.407.2 MOISTURE CONTROL. Employ moisture control measures by the following methods.

5.407.2.1 Sprinklers. Design and maintain landscape irrigation systems to prevent spray on structures.

5.407.2.2 Entries and openings. Design exterior entries and/or openings subject to foot traffic or wind-driven rain to prevent water intrusion into buildings as follows:

5.407.2.2.1 Exterior door protection. Primary exterior entries shall be covered to prevent water intrusion by using nonabsorbent floor and wall finishes within at least 2 feet around and perpendicular to such openings plus at least one of the following:

1. An installed awning at least 4 feet in depth.
2. The door is protected by a roof overhang at least 4 feet in depth.
3. The door is recessed at least 4 feet.
4. Other methods which provide equivalent protection.

5.407.2.2.2 Flashing. Install flashings integrated with a drainage plane.

SECTION 5.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

G-000 NOTE 21

5.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65% of the non-hazardous construction and demolition waste in accordance with Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.

5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance, submit a construction waste management plan that:

1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient, recycling, reuse on the project or salvage for future use or sale.
2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
3. Identifies diversion facilities where construction and demolition waste material collected will be taken.
4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

5.408.1.2 Waste Management Company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.

Note: The owner or contractor shall make the determination if the construction and demolition waste material will be diverted by a waste management company.

Exceptions to Sections 5.408.1.1 and 5.408.1.2:

1. Excavated soil and land-clearing debris.
2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist.
3. Demolition waste meeting local ordinance or calculated in consideration of local recycling facilities and markets.

5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of building area may be deemed to meet the 65% minimum requirement as approved by the enforcing agency.

5.408.1.4 Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Sections 5.408.1.1, through 5.408.1.3. The waste management plan shall be updated as necessary and shall be accessible during construction for examination by the enforcing agency.

Notes:
1. Sample forms found in "A Guide to the California Green Building Standards Code (Nonresidential)" located at www.bsc.ca.gov/Home/CALGreen.aspx may be used to assist in documenting compliance with the waste management plan.
2. Mixed construction and demolition debris processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

5.408.2 UNIVERSAL WASTE. [A] Additions and alterations to a building or tenant space that meet the scoping provisions in Section 301.3 for nonresidential additions and alterations, shall require verification that Universal Waste items such as fluorescent lamps and ballast and mercury containing thermostats as well as other California prohibited Universal Waste materials are disposed of properly and are diverted from landfills. A list of prohibited Universal Waste materials shall be included in the construction documents.

Note: Refer to the Universal Waste Rule link at: http://www.dtsc.ca.gov/LawsRegsPolicies/Regs/upload/OEAR-A_REGS_UWR_FinalText.pdf

N/A

5.408.3 EXCAVATED SOIL AND LAND CLEARING DEBRIS. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed.

Exception: Reuse, either on or off-site, of vegetation or soil contaminated by disease or pest infestation.

Notes:
1. If contamination by disease or pest infestation is suspected, contact the County Agricultural Commissioner and follow its direction for recycling or disposal of the material.
2. For a map of know pest and/or disease quarantine zones, consult with the California Department of Food and Agriculture. (www.cdfa.ca.gov)

N/A

SECTION 5.409 LIFE CYCLE ASSESSMENT

5.409.1 SCOPE. [BSC-CG] Effective July 1, 2024, projects consisting of newly constructed building(s) with a combined floor area of 100,000 square feet or greater shall comply with either Section 5.409.2 or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 100,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 100,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3. Effective January 1, 2026, the combined floor area shall be 50,000 square feet or greater.

[DSA-SS] Projects consisting of newly constructed building(s) with a combined floor area of 50,000 square feet or greater shall comply with either Section 5.409.2 or Section 5.409.3. Alteration(s) to existing building(s) where the combined altered floor area is 50,000 square feet or greater shall comply with either Section 5.105.2, 5.409.2, or 5.409.3. Addition(s) to existing building(s) where the total floor area combined with the existing building(s) is 50,000 square feet or greater shall comply with either Section 5.105.2, Section 5.409.2, or Section 5.409.3.

5.409.2 Whole building life cycle assessment. Projects shall conduct a cradle-to-grave whole building life cycle assessment performed in accordance with ISO 14040 and ISO 14044, excluding operating energy, and demonstrating a minimum 10-percent reduction in global warming potential (GWP) as compared to a reference baseline building of similar size, function, complexity, type of construction, material specification, and location that meets the requirements of the California Energy Code currently in effect. Software used to conduct the whole building life cycle assessment, including reference baseline building, shall have a data set compliant with ISO 14044, and ISO 21930 or EN 15804, and the software shall conform to ISO 21931 and/or EN 15978. The software tools and data sets shall be the same for evaluation of both the baseline building and the proposed building.

Notes:
1. Software for calculating whole building life cycle assessment is available for free at Athena Sustainable Materials Institute (https://calculatelca.com/software/impact-estimator/) and OneClick LCA-Planetary (www.oneclicklca.com/planetary). Paid versions include, but are not limited to, Sphera GaBi Solutions (gabi.sphera.com), SimaPro (simapro.com), One-Click LCA (www.oneclicklca.com) and Tally for Revit (apps.autodesk.com).
2.
3. ASTM E2921-22 "Standard Practice for Minimum Criteria for Comparing Whole Building Life Cycle Assessments for Use with Building Codes, Standards, and Rating Systems" may be consulted for the assessment.
4.
5. In addition to the required documentation specified in Section 5.409.2.3, Worksheet WS-9 may be required by the enforcing entity to demonstrate compliance with the requirements.

5.409.2.1 Building components. Building enclosure components included in the assessment shall be limited to glazing assemblies, insulation, and exterior finishes. Primary and secondary structural members included in the assessment shall be limited to footings and foundations, and structural columns, beams, walls, roofs, and floors.

5.409.2.2 Reference study period. The reference study period of the proposed building shall be equal to the reference baseline building and shall be 60 years.

5.409.2.3 Verification of compliance. A summary of the GWP analysis produced by the software and Worksheet WS-4 signed by the design professional of record shall be provided in the construction documents as documentation of compliance. A copy of the whole building life cycle assessment which includes the GWP analysis produced by the software, in addition to maintenance and training information, shall be included in the operation and maintenance manual and shall be provided to the owner at the close of construction. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

5.409.3 Product GWP compliance—prescriptive path. Each product that is permanently installed and listed in Table 5.409.3 shall have a Type III environmental product declaration (EPD), either product-specific or factory-specific.

N/A

TABLE 5.409.3 PRODUCT GWP LIMITS

BUY CLEAN CALIFORNIA MATERIALS PRODUCT CATEGORY	MAXIMUM ACCEPTABLE GWP VALUE (UNFABRICATED) (GWP ALLOWED)	UNIT OF MEASUREMENT
HOT-ROLLED STRUCTURAL STEEL SECTIONS	1.77	MT CO2e/MT
HOLLOW STRUCTURAL SECTIONS	3.00	MT CO2e/MT
STEEL PLATE	[illegible]61	MT CO2e/MT
CONCRETE REINFORCING STEEL	[illegible]	MT CO2e/MT
FLAT GLASS	[illegible].50	kg CO2e/MT
LIGHT-DENSITY MINERAL WOOL BOARD INSULATION	5.83	kg CO2e/MT
HEAVY-DENSITY MINERAL WOOL BOARD INSULATION	14.28	kg CO2e/MT

CONCRETE, READY-MIXED

CONCRETE PRODUCT CATEGORY	MAXIMUM GWP ALLOWED VALUE (GWP ALLOWED)	UNIT OF MEASUREMENT.
UP TO 2499 PSI	450	kg CO2e/m3
2500-3499 PSI	489	kg CO2e/m3
3500-4499 PSI	566	kg CO2e/m3
4500-5499 PSI	661	kg CO2e/m3
5500-6499 PSI	701	kg CO2e/m3
6500 PSI AND GREATER	799	kg CO2e/m3

CONCRETE, LIGHTWEIGHT READY-MIXED

CONCRETE PRODUCT CATEGORY.	MAXIMUM GWP ALLOWED VALUE (GWP ALLOWED).	UNIT OF MEASUREMENT..
UP TO 2499 PSI	875	kg CO2e/m3
2500-3499 PSI	956	kg CO2e/m3
3500-4499 PSI	1039	kg CO2e/m3

1. The GWP values of the products listed in Table 5.409.3 are based on 175 percent of Buy Clean California Act (BCCA) GWP values, except for concrete products which are not included in the BCCA.
2. For concrete, 175 percent of the National Ready Mixed Concrete Association (NRMCA) 2022 version 3 Pacific Southwest regional benchmark values are used for the GWP allowed, except for High Early Strength.
3. Concrete High Early Strength ready-mixed shall be calculated at 130 percent of the ready-mixed concrete GWP allowed values for each product category.

5.409.3.1 Products shall not exceed the maximum GWP value specified in Table 5.409.3.

Exception: Concrete may be considered one product category to meet compliance with this section. A weighted average of the maximum GWP for all concrete mixes installed in the project shall be less than the weighted average maximum GWP allowed per Table 5.409.3 using Exception Equation 5.409.3.1. Calculations shall be performed with consistent units of measurement for the material quantity and the GWP value.

For the purposes of this exception, industry-wide EPDs are acceptable.

Exception EQUATION 5.409.3.1

GWP*/n* < GWP*/allowed*
where
GWP*/n* = Σ (GWP*/n*)(v*/n*)
and
GWP*/allowed* = Σ (GWP*/allowed*)(v*/n*)
and
/n = each concrete mix installed in the project
GWP*/n* = the GWP for concrete mix */n* per concrete mix EPD, in kg CO2e/m3
GWP*/allowed* = the GWP potential allowed for concrete mix */n* per Table 5.409.3
v*/n* = the volume of concrete mix*/ n* installed in the project, in m3

5.409.3.2 Verification of compliance. Calculations to demonstrate compliance, Type III EPDs for products required to comply, if included in the project, and Worksheet WS-5 signed by the design professional of record shall be provided on the construction documents. Updated EPDs for products used in construction shall be provided to the owner at the close of construction and to the enforcement entity upon request. The enforcing agency may require inspection and inspection reports in accordance with Sections 702.2 and 703.1 during and at completion of construction to demonstrate substantial conformance. Inspection shall be performed by the design professional of record or third party acceptable to the enforcing agency.

SECTION 5.410 BUILDING MAINTENANCE AND OPERATIONS

5.410.1 RECYCLING BY OCCUPANTS. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code 42649.82 (a)(2)(A) et seq. shall also be exempt from the organic waste portion of this section.

5.410.1.1 Additions. All additions conducted within a 12-month period under single or multiple permits, resulting in an increase of 30% or more in floor area, shall provide recycling areas on site.

Exception: Additions within a tenant space resulting in less than a 30% increase in the tenant space floor area.

5.410.1.2 Sample ordinance. Space allocation for recycling areas shall comply with Chapter 18, Part 3, Division 30 of the *Public Resources Code*. Chapter 18 is known as the California Solid Waste Reuse and Recycling Access Act of 1991 (Act).

Note: A sample ordinance for use by local agencies may be found in Appendix A of the document at the CalRecycle's web site.

N/A

5.410.2 COMMISSIONING. [N] New buildings 10,000 square feet and over. For new buildings 10,000 square feet and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements. Commissioning shall be performed in accordance with this section by trained personnel with experience on projects of comparable size and complexity. For I-occupancies that are not regulated by OSHPD or for I-occupancies and L-occupancies that are not regulated y the California Energy Code Section 100.0 Scope, all requirements in Sections 5.410.2 through 5.410.2.6 shall apply.

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting systems and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements

Commissioning requirements shall include:

1. Owner's or Owner representative's project requirements.
2. Basis of Design.
3. Commissioning measures shown in the construction documents.
4. Commissioning plan.
5. Functional performance testing.
6. Documentation and training.
7. Commissioning report.

Exceptions:

1. Unconditioned warehouses of any size.
2. Areas less than 10,000 square feet used for offices or other conditioned accessory spaces within unconditioned warehouses.
3. Tenant improvements less than 10,000 square feet as described in Section 303.1.1.
4. Open parking garages of any size, or open parking garage areas, of any size, within a structure.

Note: For the purposes of this section, unconditioned shall mean a building, area or room which does not provide heating and/or air conditioning.

Informational Notes:

1. Functional performance testing for heating, ventilation, air conditioning systems and lighting controls must be performed in compliance with the *California Energy Code*.

5.410.2.1 Owner's or Owner Representative's Project Requirements (OPR). [N] The expectations and requirements of the building appropriate to its phase shall be documented before the design phase of the project begins. This documentation shall include the following:
1. Environmental and sustainability goals.
2. Building sustainable goals.
3. Indoor environmental quality requirements.
4. Project program, including facility functions and hours of operation, and need for after hours operation.
5. Equipment and systems expectations.
6. Building occupant and operation and maintenance (O&M) personnel expectations.

5.410.2.2 Basis of Design (BOD). [N] A written explanation of how the design of the building systems meets the OPR shall be completed at the design phase of the building project. The Basis of Design document shall cover the following systems:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse system.

5.410.2.3 Commissioning plan. [N] Prior to permit issuance a commissioning plan shall be completed to document how the project will be commissioned. The commissioning plan shall include the following:
1. General project information.
2. Commissioning goals.
3. Systems to be commissioned. Plans to test systems and components shall include:
   a. An explanation of the original design intent.
   b. Equipment and systems to be tested, including the extent of tests.
   c. Functions to be tested.
   d. Conditions under which the test shall be performed.
   e. Measurable criteria for acceptable performance.
4. Commissioning team information.
5. Commissioning process activities, schedules and responsibilities. Plans for the completion of commissioning shall be included.

5.410.2.4 Functional performance testing. [N] Functional performance tests shall demonstrate the correct installation and operation of each component, system and system-to-system interface in accordance with the approved plans and specifications. Functional performance testing reports shall contain information addressing each of the building components tested, the testing methods utilized, and include any readings and adjustments made.

5.410.2.5 Documentation and training. [N] A Systems Manual and Systems Operations Training are required, including Occupational Safety and Health Act (OSHA) requirements in *California Code of Regulations* (CCR), Title 8, Section 5142, and other related regulations.

N/A

5.410.2.5.1 Systems manual. Documentation of the operational aspects of the building shall be completed within the systems manual and delivered to the building owner or representative. The systems manual shall include the following:

1. Site information, including facility description, history and current requirements.
2. Site contact information.
3. Basic operations and maintenance, including general site operating procedures, basic troubleshooting, recommended maintenance requirements, site events log.
4. Major systems.
5. Site equipment inventory and maintenance notes.
6. A copy of verifications required by the enforcing agency or this code.
7. Other resources and documentation, if applicable.

5.410.2.5.2 Systems operations training. [N] A program for training of the appropriate maintenance staff for each equipment type and/or system shall be developed and documented in the commissioning report and shall include the following:
1. System/equipment overview (what it is, what it does and with what other systems and/or equipment it interfaces).
2. Review and demonstration of servicing/preventive maintenance.
3. Review of the information in the Systems Manual.
4. Review of the record drawings on the system/equipment.

5.410.2.6 Commissioning report. [N] A report of commissioning process activities undertaken through the design and construction phases of the building project shall be completed and provided to the owner or representative.

5.410.4 TESTING AND ADJUSTING. New buildings less than 10,000 square feet. Testing and adjusting of systems shall be required for new buildings less than 10,000 square feet or new systems to serve an addition or alteration subject to Section 303.1.

5.410.4.2 (Reserved)

Note: For energy-related systems under the scope (Section 100) of the California Energy Code, including heating, ventilation, air conditioning (HVAC) systems and controls, indoor lighting system and controls, as well as water heating systems and controls, refer to California Energy Code Section 120.8 for commissioning requirements and Sections 120.5, 120.6, 130.4, and 140.9(b)3 for additional testing requirements of specific systems.

5.410.4.2 Systems. Develop a written plan of procedures for testing and adjusting systems. Systems to be included for testing and adjusting shall include at a minimum, as applicable to the project:

1. Renewable energy systems.
2. Landscape irrigation systems.
3. Water reuse systems.

5.410.4.3 Procedures. Perform testing and adjusting procedures in accordance with manufacturer's specifications and applicable standards on each system.

5.410.4.3.1 HVAC balancing. In addition to testing and adjusting, before a new space-conditioning system serving a building or space is operated for normal use, the system shall be balanced in accordance with the procedures defined by the Testing Adjusting and Balancing Bureau National Standards; the National Environmental Balancing Bureau Procedural Standards; Associated Air Balance Council National Standards or as approved by the enforcing agency.

5.410.4.4 Reporting. After completion of testing, adjusting and balancing, provide a final report of testing signed by the individual responsible for performing these services.

5.410.4.5 Operation and maintenance (O & M) manual. Provide the building owner or representative with detailed operating and maintenance instructions and copies of guaranties/warranties for each system. O & M instructions shall be consistent with OSHA requirements in CCR, Title 8, Section 5142, and other related regulations.

5.410.4.5.1 Inspections and reports. Include a copy of all inspection verifications and reports required by the enforcing agency.

DIVISION 5.5 ENVIRONMENTAL QUALITY

SECTION 5.501 GENERAL

5.501.1 SCOPE. The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating, and/or harmful to the comfort and well-being of a building's installers, occupants and neighbors.

SECTION 5.502 DEFINITIONS

5.502.1 DEFINITIONS. The following terms are defined in Chapter 2 *(and are included here for reference)*

ARTERIAL HIGHWAY. A general term denoting a highway primarily for through traffic usually on a continuous route.

A-WEIGHTED SOUND LEVEL (dBA). The sound pressure level in decibels as measured on a sound level meter using the internationally standardized A-weighting filter or as computed from sound spectral data to which A-weighting adjustments have been made.

1 BTU/HOUR. British thermal units per hour, also referred to as Btu. The amount of heat required to raise one pound of water one degree Fahrenheit per hour, a common measure of heat transfer rate. A ton of refrigeration is 12,000 Btu, the amount of heat required to melt a ton (2,000 pounds) of ice at 320/ Fahrenheit.

COMMUNITY NOISE EQUIVALENT LEVEL (CNEL). A metric similar to the day-night average sound level (Ldn), except that a 5 decibel adjustment is added to the equivalent continuous sound exposure level for evening hours (7pm to 10pm) in addition to the 10 dB nighttime adjustment used in the Ldn.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, timber, prefabricated wood I–joists or finger–jointed lumber, all as specified in California Code of Regulations (CCR), Title 17, Section 93120.1(a).

Note: See CCR, Title 17, Section 93120.1.

DAY-NIGHT AVERAGE SOUND LEVEL (Ldn). The A-weighted equivalent continuous sound exposure level for a 24-hour period with a 10 dB adjustment added to sound levels occurring during nighttime hours (10p.m. to 7 a.m.).

DECIBEL (db). A measure on a logarithmic scale of the magnitude of a particular quantity (such as sound pressure, sound power, sound intensity) with respect to a reference quantity.

ELECTRIC VEHICLE (EV). An automotive-type vehicle for on-road use, such as passenger automobiles, buses, trucks, vans, neighborhood electric vehicles, electric motorcycles, and the like, primarily powered by an electric motor that draws current from a rechargeable storage battery, fuel cell, photovoltaic array, or other source of electric current. Plug-in hybrid electric vehicles (PHEV) are considered electric vehicles. For purposes of the *California Electrical Code*, off-road, self-propoelled electric vehicles, such as industrial trucks, hoists, lifts, transports, golf carts, airline ground support equipment, tractors, boats, and the like, are not included.

ELECTRIC VEHICLE CHARGING STATION(S) (EVCSj). One or more spaces intended for charging electric vehicles.

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE). The conductors, including the ungrounded, grounded, and equipment grounding conductors and the electric vehicle connectors, attachment plugs, and all other fittings, devices, power outlets, or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

ENERGY EQUIVALENT (NOISE) LEVEL (Leq). The level of a steady noise which would have the same energy as the fluctuating noise level integrated over the time of period of interest.

EXPRESSWAY. An arterial highway for through traffic which may have partial control of access, but which may or may not be divided or have grade separations at intersections.

FREEWAY. A divided arterial highway with full control of access and with grade separations at intersections.

GLOBAL WARMING POTENTIAL (GWP). The radiative forcing impact of one mass-based unit of a given greenhouse gas relative to an equivalent unit of carbon dioxide over a given period of time. Carbon dioxide is the reference compound with a GWP of one.

E D C B A

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

5 4 3 2 1

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE 10/07/2026

PROJECT # 026.0084.00

DESIGN PROFESSIONAL

LICENSED ARCHITECT
JASON A. PONTE
NO. C-32176
REN. 07-31-27
STATE OF CALIFORNIA

TITLE
CALGREEN CHECKLIST 2

SHEET #
G-031

2025 CALIFORNIA GREEN BUILDING STANDARDS CODE

NONRESIDENTIAL MANDATORY MEASURES, SHEET 3 (January 2025)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

GLOBAL WARMING POTENTIAL VALUE (GWP VALUE). A 100-year GWP value published by the Intergovernmental Panel on Climate Change (IPCC) in either its Second Assessment Report (SAR) (IPCC, 1995); or its Fourth Assessment A-3 Report (AR4) (IPCC, 2007). The SAR GWP values are found in column "SAR (100-yr)" of Table 2.14.; the AR4 GWP values are found in column "100 yr" of Table 2.14.

HIGH-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that is: (a) a chlorofluorocarbon, a hdrochlorofluorocarbon, a hydrofluorocarbon, a perfluorocarbon, or any compound or blend of compounds, with a GWP value equal to or greater than 150, or (B) any ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009),

LONG RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.5 times the pipe diameter.

LOW-GWP REFRIGERANT. A compound used as a heat transfer fluid or gas that: (A) has a GWP value less than 150, and (B) is not an ozone depleting substance as defined in Title 40 of the Code of Federal Regulations, Part 82, sec.82.3 (as amended March 10, 2009).

MERV. Filter minimum efficiency reporting value, based on ASHRAE 52.2–1999.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base REactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O3//g ROC).

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging).

PSIG. Pounds per square inch, guage.

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.

SCHRADER ACCESS VALVES. Access fittings with a valve core installed.

SHORT RADIUS ELBOW. Pipe fitting installed between two lengths of pipe or tubing to allow a change of direction, with a radius 1.0 times the pipe diameter.

SUPERMARKET. For the purposes of Section 5.508.2, a supermarket is any retail food facility with 8,000 square feet or more conditioned area, and that utilizes either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units.

VOC. A volatile organic compound broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

Note: Where specific regulations are cited from different agencies such as SCAQMD, ARB, etc., the VOC definition included in that specific regulation is the one that prevails for the specific measure in question.

SECTION 5.503 FIREPLACES

5.503.1 FIREPLACES. Install only a direct-vent sealed-combustion gas or sealed wood-burning fireplace, or a sealed woodstove or pellet stove, and refer to residential requirements in the California Energy Code, Title 24, Part 6, Subchapter 7, Section 150. Woodstoves, pellet stoves and fireplaces shall comply with applicable local ordinances.

N/A

5.503.1.1 Woodstoves. Woodstoves and pellet stoves shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits.

SECTION 5.504 POLLUTANT CONTROL

5.504.1 TEMPORARY VENTILATION. The permanent HVAC system shall only be used during construction if necessary to condition the building or areas of addition or alteration within the required temperature range for material and equipment installation. If the HVAC system is used during construction, use return air filters with a Minimum Efficiency Reporting Value (MERV) of 8, based on ASHRAE 52.2-1999, or an average efficiency of 30% based on ASHRAE 52.1-1992. Replace all filters immediately prior to occupancy, or, if the building is occupied during alteration, at the conclusion of construction.

5.504.3 Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

5.504.4 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with Sections 5.504.4.1 through 5.504.4.6.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products as specified in subsection 2, below.
2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of *California Code of Regulations*, Title 17, commencing with Section 94507.

TABLE 5.504.4.1 - ADHESIVE VOC LIMIT

LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER

ARCHTECTURAL APPLICATIONS	CURRENT VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	50
CERAMICE TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVES	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHSEVIES	250
OTHER ADHESIVES NOT SPECIFICALLY LISTED	50
SPECIALTY APPLICATION	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.
2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168, www.arb.ca.gov/DRDB/SC/CURHTML/R1168.PDF

TABLE 5.504.4.2 - SEALANT VOC LIMIT

LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER

SEALANTS	CURRENT VOC LIMIT.
ARCHITECTURAL	250
MARINE DECK	760
NONMEBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SELANT PRIMERS	
ARCHITECTURAL	
NONPOROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

NOTE: FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THESE TABLES, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

TABLE 5.504.4.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS

GRAMS OF VOC PER LITER OF COATINGS, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	CURRENT VOC LIMIT..
FLAT COATINGS	50
NONFLAT COATINGS	100
NONFLAT HIGH GLOSS COATINGS	150
SPECIALTY COATINGS:	
ALUMINUM ROOF COAITNGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH-TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTIVE COATINGS	250
SHELLACS:	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS
2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.
3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.3.1 Aerosol Paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d)(2) of *California Code of Regulations*, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8 Rule 49.

5.504.4.3.2 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

1. Manufacturer's product specification
2. Field verification of on-site product containers

5.504.4.4 Carpet Systems.
All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers." Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.4.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health,"Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers,"Version 1.2, January 2017 (Emission testing method for California Specifications 01350).

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.4.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 5.504.4.1.

5.504.4.5 Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure (ATCM) for Composite Wood (17 CCR 93120 et seq.). Those materials not exempted under the ATCM must meet the specified emission limits, as shown in Table 5.504.4.5.

N/A

5.504.4.5.3 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications.
2. Chain of custody certifications.
3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269 or European 636 3S standards.
5. Other methods acceptable to the enforcing agency.

TABLE 5.504.4.5 - FORMALDEHYDE LIMITS

MAXIMUM FORMALDEYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BORAD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD	0.13

1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIFORNIA CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.
2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16 INCHES (8 MM).

5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants, and caulks used on the project shall meet the requirements of the following standards:

5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Coatings Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36 and 4.37 of the 2007 California Air Resources Board Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 5.504.4.3 shall apply.

5.504.4.6 Resilient flooring systems. Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specifications 01350)

See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.6.1 Verification of compliance. Documentation shall be provided verifying that resilient flooring materials meet the pollutant emission limits.

5.504.4.7 Thermal insulation
Comply with the requirements of the California Department of Public Health, "Standard Method of the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."Version 1.2, January 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs.
https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx#material

5.504.4.7.1 Verification of compliance.
Documentation shall be provided verifying that thermal insulation materials meet the pollutant emission limits.

N/A

Y	N/A	RESPON. PARTY	
■	□		
■	□		
■	□	OWNER	
■	□		
■	□		
■	□		

5.504.4.8 Acoustical ceiling and wall panels.
Comply with the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers, " Version 1.2, January 2017 (Emission testing method for California Specification 01350).
See California Department of Public Health's website for certification programs and testing labs.

5.504.4.8.1 Verification of compliance. Documentation shall be provided verifying that acoustical finish materials meet the pollutant emission limits.

5.504.5 Filters. In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy, and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Exceptions: Existing mechanical equipment.

5.504.5.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

5.504.7 ENVIRONMENTAL TOBACCO SMOKE (ETS) CONTROL. Where outdoor areas are provided for smoking, prohibit smoking within 25 feet of building entries, outdoor air intakes and operable windows and within the building as already prohibited by other laws or regulations; or as enforced by ordinances, regulations or policies of any city, county, city and county, California Community College, campus of the California State University, or campus of the University of California, whichever are more stringent. When ordinances, regulations or policies are not in place, post signage to inform building occupants of the prohibitions.

SECTION 5.505 INDOOR MOISTURE CONTROL

5.505.1 INDOOR MOISTURE CONTROL. Buildings shall meet or exceed the provisions of California Building Code, CCR, Title 24, Part 2, Sections 1202 (Ventilation) and Chapter 14 (Exterior Walls). For additional measures, see Section 5.407.2 of this code.

SECTION 5.506 INDOOR AIR QUALITY

5.506.1 OUTSIDE AIR DELIVERY. For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements For Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

5.506.2 CARBON DIOXIDE (CO2) MONITORING. For buildings or additions equipped with demand control ventilation, CO2 sensors and ventilation controls shall be specified and installed in accordance with the requirements of the California Energy Code, Section 120(c)(4).

5.506.3 Carbon dioxide (CO2) monitoring in classrooms.
[DSA-SS] Classrooms and other similar rooms that are used for group instruction shall be equipped with a carbon dioxide monitor or sensor.

N/A

[BSC-CG] Newly constructed projects and qualifying additions and alterations (per scope in Section 301.3) for University of California, California State University and private school classrooms, lecture and post-secondary classrooms shall be equipped with a carbon dioxide monitor or sensor.

[DSA-SS, BSC-CG] The carbon dioxide sensor or monitor shall meet the following requirements:

1. The monitor or sensor should be permanently affixed in a tamper-proof manner in each classroom between 3 and 6 feet (914 mm and 1829 mm) above the floor and at least 5 feet (1524 mm) away from door and operable windows.
2. When the monitor or sensor is integral to an Energy Management Control System (EMCS), the monitor or sensor shall display the carbon dioxide readings on the device. When the sensor is integral to an EMCS, the carbon dioxide readings shall be available to and regularly monitored by facility personnel.
3. A monitor shall provide notification though a visual indicator on the monitor when the carbon dioxide levels in the classroom have exceeded 1,100ppm. A sensor integral to an EMCS shall provide notification to facility personnel through a visual and/or audible indicator when the carbon dioxide levels in the classroom have exceed 1,100ppm.
4. The monitor or EMCS devices used to measure carbon dioxide levels shall maintain a record of previous data that includes at least the maximum carbon dioxide concentration measured.
5. The monitor or sensor used to measure carbon dioxide levels shall have the capacity to measure carbon dioxide levels with a range of 400ppm to 2000ppm or greater.
6. The monitor or sensor shall be certified by the manufacturer to be accurate within 75ppm at 1,000ppm carbon dioxide concentration and shall be certified by the manufacturer to require calibration no more frequently than once every 5 years.

SECTION 5.507 ENVIRONMENTAL COMFORT

5.507.4 ACOUSTICAL CONTROL. Employ building assemblies and components with Sound Transmission Class (STC) values determined in accordance with ASTM E 90 and ASTM E 413, or Outdoor-Indoor Sound Transmission Class (OITC) determined in accordance with ASTM E 1332, using either the prescriptive or performance method in Section 5.507.4.1 or 5.507.4.2.

Exception: Buildings with few or no occupants or where occupants are not likely to be affected by exterior noise, as determined by the enforcement authority, such as factories, stadiums, storage, enclosed parking structures and utility buildings.

Exception: [DSA-SS] For public schools and community colleges, the requirements of this section and all subsections apply only to new construction.

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

Exceptions:

1. Ldn or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone (AICUZ) plan.
2. Ldn or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or Ldn noise contour of a freeway or expressway, railroad, industrial source or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1. Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB Leq - 1-hr during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance Method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (Leq-1Hr) of 50 dBA in occupied areas during any hour of operation.

5.507.4.2.1 Site Features. Exterior features such as sound walls or earth berms may be utilized as appropriate to the building, addition or alteration project to mitigate sound migration to the interior.

5.507.4.2.2 Documentation of Compliance. An acoustical analysis documenting complying interior sound levels shall be prepared by personnel approved by the architect or engineer of record.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

Note: Examples of assemblies and their various STC ratings may be found at the California Office of Noise Control: www.toolbase.org/PDF/CaseStudies/stc_ioc_ratings.pdf.

SECTION 5.508 OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

5.508.1.1 Chlorofluorocarbons (CFCs). Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

5.508.1.2 Halons. Install HVAC, refrigeration and fire suppression equipment that do not contain Halons.

5.508.2 Supermarket refrigerant leak reduction. New commercial refrigeration systems shall comply with the provisions of this section when installed in retail food stores 8,000 square feet or more conditioned area, and that utilize either refrigerated display cases, or walk-in coolers or freezers connected to remote compressor units or condensing units. The leak reduction measures apply to refrigeration systems containing high-global-warming potential (high-GWP) refrigerants with a GWP of 150 or greater. New refrigeration systems include both new facilities and the replacement of existing refrigeration systems in existing facilities.

Exception: Refrigeration systems containing low-global warming potential (low-GWP) refrigerant with a GWP value less than 150 are not subject to this section. Low-GWP refrigerants are nonozone-depleting refrigerants that include ammonia, carbon dioxide (CO/2), and potentially other refrigerants.

5.508.2.1 Refrigerant piping. Piping compliant with the California Mechanical Code shall be installed to be accessible for leak protection and repairs. Piping runs using threaded pipe, copper tubing with an outside diameter (OD) less than 1/4 inch, flared tubing connections and short radius elbows shall not be used in refrigerant systems except as noted below.

5.508.2.1.1 Threaded pipe. Threaded connections are permitted at the compressor rack.

5.508.2.1.2 Copper pipe. Copper tubing with an OD less than 1/4 inch may be used in systems with a refrigerant charge of 5 pounds or less.

5.508.2.1.2.1 Anchorage. One-fouth-inch OD tubing shall be securely clamped to a rigid base to keep vibration levels below 8 mils.

5.508.2.1.3 Flared tubing connections. Double-flared tubing connections may be used for pressure controls, valve pilot lines and oil.

Exception: Single-flared tubing connections may be used with a multiring seal coated with industrial sealant suitable for use with refrigerants and tightened in accordance with manufacturer's recommendations.

5.508.2.1.4 Elbows. Short radius elbows are only permitted where space limitations prohibit use of long radius elbows.

5.508.2.2 Valves. Valves Valves and fittings shall comply with the *California Mechanical Code* and as follows.

5.508.2.2.1 Pressure relief valves. For vessels containing high-GWP refrigerant, a rupture disc shall be installed between the outlet of the vessel and the inlet of the pressure relief valve.

5.508.2.2.1.1 Pressure detection. A pressure gauge, pressure transducer or other device shall be installed in the space between the rupture disc and the relief valve inlet to indicate a disc rupture or discharge of the relief valve.

5.508.2.2.2 Access valves. Only Schrader access valves with a brass or steel body are permitted for use.

5.508.2.2.2.1 Valve caps. For systems with a refrigerant charge of 5 pounds or more, valve caps shall be brass or steel and not plastic.

5.508.2.2.2.2 Seal caps. If designed for it, the cap shall have a neoprene O-ring in place.

5.508.2.2.2.2.1 Chain tethers. Chain tethers to fit ovr the stem are required for valves designed to have seal caps.

Exception: Valves with seal caps that are not removed from the valve during stem operation.

5.508.2.3 Refrigerated service cases. Refrigerated service cases holding food products containing vinegar and salt shall have evaporator coils of corrosion-resistant material, such as stainless steel; or be coated to prevent corrosion from these substances.

5.508.2.3.1 Coil coating. Consideration shall be given to the heat transfer efficiency of coil coating to maximize energy efficiency.

5.508.2.4 Refrigerant receivers. Refrigerant receivers with capacities greater than 200 pounds shall be fitted with a device tha indicates the level of refrigerant in the receiver.

5.508.2.5 Pressure testing. The system shall be pressure tested during installation prior to evacuation and charging.

5.508.2.5.1 Minimum pressure. The system shall be charged with regulated dry nitrogen and appropriate tracer gas to bring system pressure up to 300 psig minimum.

5.508.2.5.2 Leaks. Check the system for leaks, repair any leaks, and retest for pressure using the same gauge.

5.508.2.5.3 Allowable pressure change. The system shall stand, unaltered, for 24 hours with no more than a +/- one pound pressure change from 300 psig, measured with the same gauge.

5.508.2.6 Evacuation. The system shall be evacuated after pressure testing and prior to charging.

5.508.2.6.1 First vacuum. Pull a system vacuum down to at least 1000 microns (+/- 50 microns), and hold for 30 minutes.

5.508.2.6.2 Second vacuum. Pull a second system vacuum to a minimum of 500 microns and hold for 30 minutes.

5.508.2.6.3 Third vacuum. Pull a third vacuum down to a minimum of 300 microns, and hold for 24 hours with a maximum drift of 100 microns over a 24-hour period.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS

702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

1. State certified apprenticeship programs.
2. Public utility training programs.
3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
4. Programs sponsored by manufacturing organizations.
5. Other programs acceptable to the enforcing agency.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

1. Certification by a national or regional green building program or standard publisher.
2. Certification by a statewide energy consulting or verification organization, building performance contractors, and home energy auditors.
3. Successful completion of a third party apprentice training program in the appropriate trade.
4. Other programs acceptable to the enforcing agency.

N/A

Notes:

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

[BSC-CG] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS

703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

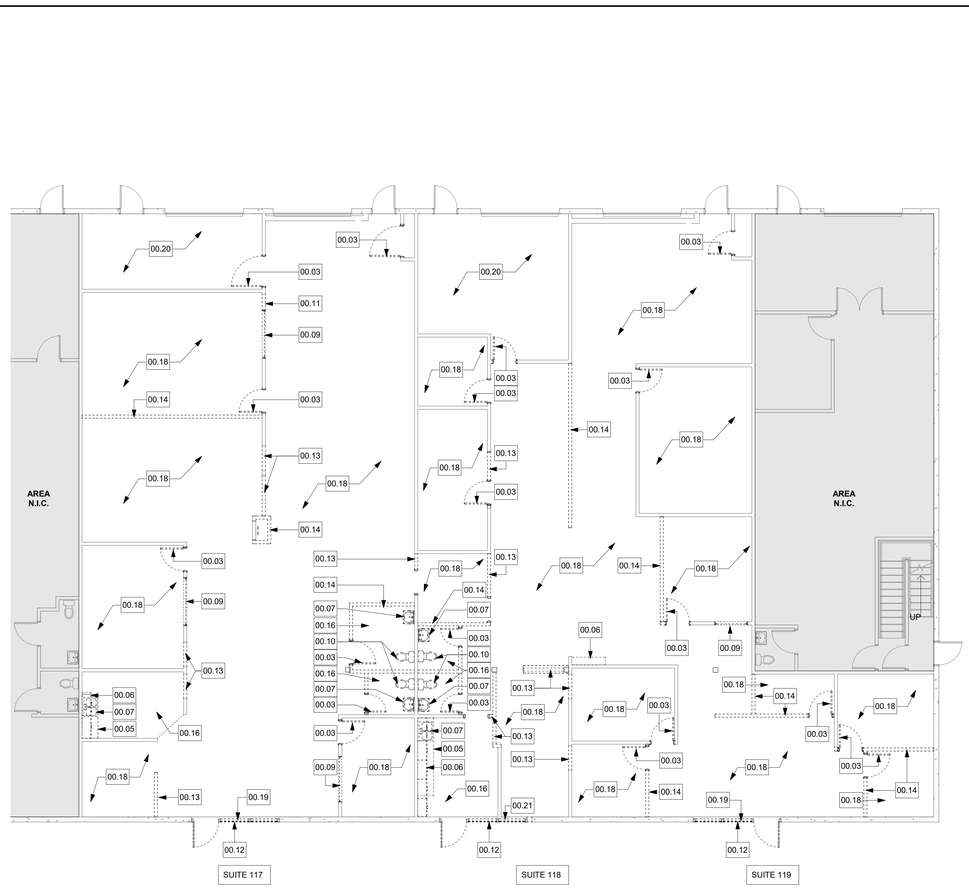
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. PONTE NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE
CALGREEN CHECKLIST 3

SHEET #
G-032



DEMOLITION PLAN | **B1**

1/8" = 1'-0"

GENERAL DEMOLITION PLAN NOTES

1. REFER TO SHEET G-001 FOR TYPICAL SYMBOL LEGEND OTHER GRAPHIC STANDARDS.
2. REFER TO SHEET G-001 FOR ABREVIATIONS AND ADDTITION PROJECT INFORMATION.
3. REFER TO SPECIFICATIONS SECTION 02 41 19 FOR ADDITIONAL DEMOLITION REQUIREMENTS.
4. REFER TO PHOTO SHEETS (AD-200 SERIES) FOR ADDITIONAL DEMOLITION REQUIREMENTS.
5. ALL SCREENED/HALFTONE LINES INDICATE EXISTING ITEMS TO REMAIN (TYP., UNLESS NOTED OTHERWISE).
6. ALL DASHED LINES INDICATE EXISTING ITEMS TO BE REMOVED (TYP. UNLESS NOTED OTHERWISE) BUT NOT LIMITED TO THE FOLLOWING:
   A. INTERIOR PARTITIONS (REMOVE TO STRUCTURE).
   B. CEILINGS - INCLUDING CUBICAL CURTAIN TRACKS, IV TRACKS, CEILING SUSPENSION SYSTEM, MISC. STEEL SUPPORTS FOR SUSPENDED EQUIPMENT, LIGHT FIXTURES, DIFFUSERS AND GRILLES.
   C. FLOOR FINISHES TO CONCRETE INCLUDING: CARPET, RVT, SHEET VINYL, CERAMIC TILE, ETC. GRIND SMOOTH, ROUGHEN AND/OR ETCH TO LEAVE FLOOR SUBSTRATES IN PROPER CONDITION TO RECEIVE NEW SCHEDULED FLOOR FINISH AS RECOMMENDED BY SURFACE FINISH MANUFACTURER.
   D. DOORS, DOOR FRAMES, WINDOW FRAMES AND GLAZING.
   E. FIRE EXTINGUISHER AND FIRE HOSE CABINETS.
   F. CABINETWORK, SHELVING , BASES.
   G. TOILET PARTITIONS AND ACCESSORIES.
   H. TACKBOARDS, MARKERBOARDS, CHALKBOARDS, AND PEGBOARDS.
   I. EQUIPMENT ITEMS (SEE MECHANICAL AND ELECTRICAL).
   J. SAW CUT & REMOVAL OF EXISTING CONCRETE SLAB FLOOR FOR UNDERGROUND UTILITY WORK.
7. WORK IS REQUIRED TO BE PERFORMED WITHIN EXISTING BUILDING. EACH CONTRACTOR WILL HAVE ACCESS TO AREAS IN WHICH THIS WORK OCCURS.
8. OWNER WILL OCCUPY EXISTING BUILDING DURING LIFE OF THIS CONTRACT. SCHEDULE ALL WORK AT SUCH TIME AND IN SUCH A MANNER TO MINIMIZE INTERFERENCE TO PUBLIC, STAFF AND OWNER'S OPERATIONS. CONTRACTOR MUST OBTAIN APPROVAL OF OWNER BEFORE STARTING ANY WORK WITHIN ANY EXISTING AREA OF BUILDING.
9. AREA IMMEDIATELY SURROUNDING ALL AREAS OF WORK SHALL BE PROTECTED FROM DANGER OF MATERIALS BEING DROPPED OR DISLODGED.
10. WORK SHALL BE CARRIED OUT IN A MANNER THAT WILL NOT IMPOSE AVOIDABLE HARDSHIP, DANGER, OR INCONVENIENCE TO PUBLIC OR STAFF. WORK SHALL BE PLANNED SO AS TO MINIMIZE SHUTDOWN TIME OR ANY SERVICE.
11. ANY SHUTDOWN OR DISRUPTION OF SERVICE SHALL BE MADE BY WRITTEN REQUEST TO THE OWNER TWO WEEKS BEFORE COMMENCEMENT OF WORK. LIMIT DURATION OF EACH SUCH DISRUPTION OF SERVICE TO MAXIMUM OF 4 HOURS OR AS APPROVED BY OWNER.
12. FABRICATE AND INSTALL INTERCONNECTING PORTIONS OF THESE SYSTEMS PRIOR TO SHUT DOWN FOR FINAL CONNECTIONS.
13. MAINTAIN UTILITIES OR OTHER SERVICE, INDICATED TO BE ABANDONED, IN SERVICE OR PROVIDE ALTERNATE MEANS OF SERVICE UNTIL NEW FACILITIES AREA PROVIDED, TESTED, AND PUT IN OPERATION.
14. MAINTAIN FIRE PROTECTION AND FIRE ALARM SYSTEMS AT ALL TIMES WITHIN EXISTING FACILITIES.
15. REVIEW ALL EXISTING CONDITIONS, DRAWINGS AND OTHER DOCUMENTS FOR PROPER COORDINATION BETWEEN NEW AND EXISTING CONSTRUCTION.
16. ACTIVE UTILITIES WHOSE LOCATIONS ARE UNKNOWN TO OWNER ARE SUSPECTED TO EXIST. CONTRACTOR SHALL BE CAUTION OF THEIR EXISTENCE. IF THEY ARE ENCOUNTERED, IMMEDIATELY REPORT TO OWNER FOR DIRECTION.
17. LIMIT USE AND OPERATION AT SITE TO "LIMITS OF CONSTRUCTION," INDICATED AND REQUIRED TO PERFORM WORK. PORTIONS OF SITE BEYOND AREA OF REQUIRED WORK SHALL NOT BE DISTURBED WITHOUT WRITTEN APPROVAL OF OWNER.
18. LIMIT USE AND OPERATION WITHIN EXISTING FACILITIES TO AREAS INDICATED FOR CONSTRUCTION WORK AND AS REQUIRED TO PERFORM WORK. OTHER AREAS WITHIN FACILITY SHALL NOT BE DISTURBED OR DISRUPTED.
19. DAMAGES TO EXISTING STRUCTURE, UTILITIES AND OTHER ITEMS WHICH ARE CAUSED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED TO THEIR ORIGINAL CONDITION.
20. MAINTAIN AND KEEP CLEAR ALL REQUIRED FIRE EXITWAYS THROUGHOUT FACILITY WITHIN AND IN VICINITY OF CONSTRUCTION AREAS. COORDINATE ALTERNATE TEMPORARY EGRESS ROUTES WITH OWNER AND LOCAL FIRE AUTHORITY.
21. MAINTAIN EXISTING BUILDING IN A WEATHERTIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. REPAIR DAMAGE AND LEAKS CAUSED BY CONSTRUCTION OPERATIONS. TAKE ALL PRECAUTION NECESSARY TO PROTECT BUILDING AND ITS OCCUPANTS DURING CONSTRUCTION PERIOD.
22. THE DEMOLITION DRAWINGS FOR ARCHITECTURAL AND ENGINEERING WORK HAVE BEEN PREPARED USING (AS DESIGNED) DOCUMENTS PROVIDED BY THE OWNER. NEITHER THE OWNER NOR THE ARCHITECT WARRANT THESE TO BE (AS-BUILT) DOCUMENTS AND ACTUAL CONDITIONS MAY VARY.
23. CONTRACTOR SHALL DISPOSE OF ALL ITEMS - OWNER RESERVES THE RIGHT TO SELECT SPECIFIC ITEMS FOR SALVAGE - THESE ITEMS SHALL BE IDENTIFIED DURING PRE-CONSTRUCTION WALK THROUGH.
24. PROVIDE TEMPORARY DUST, SIGHT, AND SOUND BARRIERS WHEREVER NECESSARY TO LIMIT THE AMOUNT OF NOISE, DUST AND VISUAL POLLUTION WITHIN AND AROUND THE FACILITY, TO MAINTAIN OCCUPANCY AND USE OF OCCUPIED AREAS IN THE EXISTING BUILDING 24 HOURS PER DAY. THE EXACT LOCATION AND QUANTITY OF TEMPORARY BARRIERS IS TO BE DETERMINED BY CONSTRUCTION SCHEDULE AND WORK SEQUENCE. INTERIOR PARTITIONS ARE DEFINED FOR THESE PURPOSES AS FULL HEIGHT 3-5/8" METAL STUD WITH GWB FINISH, PAINTED (COLOR AS SELECTED BY OWNER). SOUND INSULATED WITH FULL HEIGHT 2" (UNFACED) SOUND ATTENUATION BLANKETS, AND SEALED TOP, BOTTOM, AND ENDS TO PREVENT THE PASSAGE OF DUST AND NOISE.
25. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY THE 2016 CBC SECTION 1616A.1.18 EQUIPMENT SUPPORTS AND ATTACHMENTS SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD (DPR) AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.
26. SPRINKLER BRANCH LINES AND SPRINKLER HEADS SHALL BE PROTECTED IN PLACE DURING ANY DEMOLITION. SPRINKLER BRANCH LINES AND HEADS TO BE MODIFIED/RELOCATED AS REQUIRED TO MEET CODE REQUIRED COVERAGE IN ACCORDANCE WITH CBC SECTION 903.3 AND NFPA 13.
27. EXISTING WALL ACCESSORIES SHALL BE REMOVED AND REINSTALLED, U.N.O.
28. REFER TO MPE DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
29. CONCRETE SUB-FLOOR TO BE CLEANED, PATCHED AND REPAIRED TO EXTENT NECESSARY TO MAKE LEVEL AND RECEIVE NEW FLOOR FINISHES. EXISTING FLOOR PENETRATIONS SHALL BE INFILLED PER THE FOLLOWING:
   A. PIPE/ CONDUIT HOLES 4" DIA. OR LESS PER DETAIL:
   B. 4" - 13" DIAMTER PER DETAIL:

HAZARDOUS MATERIAL NOTES

1. OWNER SHALL SUPPLY CONTRACTOR W/ HAZARDOUS MATERIAL INSPECTION REPORT (CONDUCTED BY A LICENSED PROFESSIONAL - LICENSED BY LOCAL JURISDICTION LAWS)
2. ALL HAZARDOUS MATERIALS SHALL BE PROPERLY DISPOSED OF BY LOCAL, STATE AND FEDERAL REQUIREMENTS.
3. THE OWNER SHALL BE RESPONSIBLE FOR HIRING LICENSED PROFESSIONALS FOR ANY REMOVAL OF ANY HAZARDOUS MATERIALS. SUCH PROFESSIONAL SHALL BE RESPONSIBLE FOR:
   A. MEANS AND METHOD OF REMOVAL TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
   B. OBTAIN ALL PROPER PERMITS
   C. PROVIDE ALL PROPER PAPERWORK FOR PROPER REMOVAL AND DISPOSAL.
4. THE ARCHITECT ASSUMES NO RESPONSIBILITY OF ANY HAZARDOUS MATERIALS FOR THIS PROJECT AND THESE DRAWINGS ARE NOT PREPARED FOR OBTAINING ANY PERMIT FOR THE REMOVAL OF HAZARDOUS MATERIALS.
5. IF ABATEMENT IS REQUIRED, THE ABATEMENT CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND PREPARE THE REQUIRED DOCUMENTATION FOR PERMIT TO REMOVE ANY HAZARDOUS MATERIALS AND SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS FOR HAZARDOUS MATERIAL REMOVAL

AGENCY APPROVAL

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KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM
00.03	REMOVE (E) DOOR, DOOR FRAME AND HARDWARE.
00.05	REMOVE (E) BASE CABINETS AND COUNTERTOP.
00.06	REMOVE (E) WALL-MOUNTED CABINETS.
00.07	REMOVE (E) SINK, FAUCET, AND RELATED COMPONENTS (REF PLUMB).
00.09	REMOVE (E) WINDOW FRAME AND GLAZING.
00.10	REMOVE (E) TOILET AND RELATED COMPONENTS (REF. PLUMB).
00.11	DEMO PORTION OF (E) PARTITION PER REMODEL PLAN.
00.12	REMOVE (E) STOREFRONT DOOR AND GLAZING SYSTEM. PREPARE FOR NEW STOREFRONT GLAZING SYSTEM (TO MATCH EXISTING). REF: REMODEL PLAN FOR ADDITIONAL SCOPE.
00.13	DEMO PORTION OF WALL AS REQUIRED FOR NEW WORK.
00.14	DEMO FRAMED WALL FROM FLOOR TO CEILING.
00.16	DEMO (E) SHEET VINYL FLOORING.
00.18	DEMO (E) CARPET.
00.19	REMOVE ,SALVAGE AND REINSTALL (E) SHADING DEVICES.
00.20	DEMO (E) VCT.
00.21	REMOVE (E) SHADING DEVICE AND RETURN TO OWNER.

DEMOLITION FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	AREA NOT IN SCOPE OF WORK
	DEMOLISH ITEM PER KEYNOTE
3	EXISTING PARTITION -RE: FLOOR PLAN FOR EXISTING PARTITION TYPES.
	(E) CONC WALL

1. RE: FLOOR PLAN SHEETS FOR NEW & EXISTING PARTITION TYPES.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. DONTJE NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

DEMOLITION FLOOR PLAN WITH NOTES

SHEET #

AD-100



GENERAL DEMOLITION PLAN NOTES

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   D. DOORS, DOOR FRAMES, WINDOW FRAMES AND GLAZING.
   E. FIRE EXTINGUISHER AND FIRE HOSE CABINETS.
   F. CABINETWORK, SHELVING , BASES.
   G. TOILET PARTITIONS AND ACCESSORIES.
   H. TACKBOARDS, MARKERBOARDS, CHALKBOARDS, AND PEGBOARDS.
   I. EQUIPMENT ITEMS (SEE MECHANICAL AND ELECTRICAL).
   J. SAW CUT & REMOVAL OF EXISTING CONCRETE SLAB FLOOR FOR UNDERGROUND UTILITY WORK.
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10. WORK SHALL BE CARRIED OUT IN A MANNER THAT WILL NOT IMPOSE AVOIDABLE HARDSHIP, DANGER, OR INCONVENIENCE TO PUBLIC OR STAFF. WORK SHALL BE PLANNED SO AS TO MINIMIZE SHUTDOWN TIME OR ANY SERVICE.
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12. FABRICATE AND INSTALL INTERCONNECTING PORTIONS OF THESE SYSTEMS PRIOR TO SHUT DOWN FOR FINAL CONNECTIONS.
13. MAINTAIN UTILITIES OR OTHER SERVICE, INDICATED TO BE ABANDONED, IN SERVICE OR PROVIDE ALTERNATE MEANS OF SERVICE UNTIL NEW FACILITIES AREA PROVIDED, TESTED, AND PUT IN OPERATION.
14. MAINTAIN FIRE PROTECTION AND FIRE ALARM SYSTEMS AT ALL TIMES WITHIN EXISTING FACILITIES.
15. REVIEW ALL EXISTING CONDITIONS, DRAWINGS AND OTHER DOCUMENTS FOR PROPER COORDINATION BETWEEN NEW AND EXISTING CONSTRUCTION.
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17. LIMIT USE AND OPERATION AT SITE TO "LIMITS OF CONSTRUCTION," INDICATED AND REQUIRED TO PERFORM WORK. PORTIONS OF SITE BEYOND AREA OF REQUIRED WORK SHALL NOT BE DISTURBED WITHOUT WRITTEN APPROVAL OF OWNER.
18. LIMIT USE AND OPERATION WITHIN EXISTING FACILITIES TO AREAS INDICATED FOR CONSTRUCTION WORK AND AS REQUIRED TO PERFORM WORK. OTHER AREAS WITHIN FACILITY SHALL NOT BE DISTURBED OR DISRUPTED.
19. DAMAGES TO EXISTING STRUCTURE, UTILITIES AND OTHER ITEMS WHICH ARE CAUSED BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED TO THEIR ORIGINAL CONDITION.
20. MAINTAIN AND KEEP CLEAR ALL REQUIRED FIRE EXITWAYS THROUGHOUT FACILITY WITHIN AND IN VICINITY OF CONSTRUCTION AREAS. COORDINATE ALTERNATE TEMPORARY EGRESS ROUTES WITH OWNER AND LOCAL FIRE AUTHORITY.
21. MAINTAIN EXISTING BUILDING IN A WEATHERTIGHT CONDITION THROUGHOUT CONSTRUCTION PERIOD. REPAIR DAMAGE AND LEAKS CAUSED BY CONSTRUCTION OPERATIONS. TAKE ALL PRECAUTION NECESSARY TO PROTECT BUILDING AND ITS OCCUPANTS DURING CONSTRUCTION PERIOD.
22. THE DEMOLITION DRAWINGS FOR ARCHITECTURAL AND ENGINEERING WORK HAVE BEEN PREPARED USING (AS DESIGNED) DOCUMENTS PROVIDED BY THE OWNER. NEITHER THE OWNER NOR THE ARCHITECT WARRANT THESE TO BE (AS-BUILT) DOCUMENTS AND ACTUAL CONDITIONS MAY VARY.
23. CONTRACTOR SHALL DISPOSE OF ALL ITEMS - OWNER RESERVES THE RIGHT TO SELECT SPECIFIC ITEMS FOR SALVAGE - THESE ITEMS SHALL BE IDENTIFIED DURING PRE-CONSTRUCTION WALK THROUGH.
24. PROVIDE TEMPORARY DUST, SIGHT, AND SOUND BARRIERS WHEREVER NECESSARY TO LIMIT THE AMOUNT OF NOISE, DUST AND VISUAL POLLUTION WITHIN AND AROUND THE FACILITY, TO MAINTAIN OCCUPANCY AND USE OF OCCUPIED AREAS IN THE EXISTING BUILDING 24 HOURS PER DAY. THE EXACT LOCATION AND QUANTITY OF TEMPORARY BARRIERS IS TO BE DETERMINED BY CONSTRUCTION SCHEDULE AND WORK SEQUENCE. INTERIOR PARTITIONS ARE DEFINED FOR THESE PURPOSES AS FULL HEIGHT 3-5/8" METAL STUD WITH GWB FINISH, PAINTED (COLOR AS SELECTED BY OWNER). SOUND INSULATED WITH FULL HEIGHT 2" (UNFACED) SOUND ATTENUATION BLANKETS, AND SEALED TOP, BOTTOM, AND ENDS TO PREVENT THE PASSAGE OF DUST AND NOISE.
25. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS PART OF THIS PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS, EXCEPT THOSE EXEMPT BY THE 2016 CBC SECTION 1616A.1.18 EQUIPMENT SUPPORTS AND ATTACHMENTS SHALL BE APPROVED BY THE APPROPRIATE DESIGN PROFESSIONAL OF RECORD (DPR) AND OSHPD AS A PART OF FIELD REVIEWS/OBSERVATIONS. THE INSPECTOR OF RECORD SHALL ASSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.
26. SPRINKLER BRANCH LINES AND SPRINKLER HEADS SHALL BE PROTECTED IN PLACE DURING ANY DEMOLITION. SPRINKLER BRANCH LINES AND HEADS TO BE MODIFIED/RELOCATED AS REQUIRED TO MEET CODE REQUIRED COVERAGE IN ACCORDANCE WITH CBC SECTION 903.3 AND NFPA 13.
27. EXISTING WALL ACCESSORIES SHALL BE REMOVED AND REINSTALLED, U.N.O.
28. REFER TO MPE DRAWINGS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
29. CONCRETE SUB-FLOOR TO BE CLEANED, PATCHED AND REPAIRED TO EXTENT NECESSARY TO MAKE LEVEL AND RECEIVE NEW FLOOR FINISHES. EXISTING FLOOR PENETRATIONS SHALL BE INFILLED PER THE FOLLOWING:
   A. PIPE/ CONDUIT HOLES 4" DIA. OR LESS PER DETAIL:
   B. 4" - 13" DIAMTER PER DETAIL:

HAZARDOUS MATERIAL NOTES

1. OWNER SHALL SUPPLY CONTRACTOR W/ HAZARDOUS MATERIAL INSPECTION REPORT (CONDUCTED BY A LICENSED PROFESSIONAL - LICENSED BY LOCAL JURISDICTION LAWS)
2. ALL HAZARDOUS MATERIALS SHALL BE PROPERLY DISPOSED OF BY LOCAL, STATE AND FEDERAL REQUIREMENTS.
3. THE OWNER SHALL BE RESPONSIBLE FOR HIRING LICENSED PROFESSIONALS FOR ANY REMOVAL OF ANY HAZARDOUS MATERIALS. SUCH PROFESSIONAL SHALL BE RESPONSIBLE FOR:
   A. MEANS AND METHOD OF REMOVAL TO MEET ALL LOCAL, STATE AND FEDERAL REQUIREMENTS.
   B. OBTAIN ALL PROPER PERMITS
   C. PROVIDE ALL PROPER PAPERWORK FOR PROPER REMOVAL AND DISPOSAL.
4. THE ARCHITECT ASSUMES NO RESPONSIBILITY OF ANY HAZARDOUS MATERIALS FOR THIS PROJECT AND THESE DRAWINGS ARE NOT PREPARED FOR OBTAINING ANY PERMIT FOR THE REMOVAL OF HAZARDOUS MATERIALS.
5. IF ABATEMENT IS REQUIRED, THE ABATEMENT CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND PREPARE THE REQUIRED DOCUMENTATION FOR PERMIT TO REMOVE ANY HAZARDOUS MATERIALS AND SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND INSPECTIONS FOR HAZARDOUS MATERIAL REMOVAL

AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

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KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM
00.01	REMOVE, SALVAGE AND REINSTALL 12 BEST 2X4 LIGHT FIXTURE OF LIKE KIND.
00.02	REMOVE (E) GYP BD CEILING.
00.04	REMOVE (E) CEILING GRID.

DEMOLITION RCP LEGEND

SYMBOL	DESCRIPTION
	AREA NOT IN SCOPE OF WORK
	DEMOLISH ITEM PER KEYNOTE
	EXISTING PARTITION -RE: FLOOR PLAN FOR EXISTING PARTITION TYPES.
	(E) CONC WALL
	DEMO (E) CEILING GRID
	DEMO (E) LIGHT FIXTURE

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. GOMEZ NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

DEMOLITION REFLECTED CEILING PLAN

SHEET #

AD-110

DEMOLITION CEILING PLAN | **B1**

1/8" = 1'-0"



KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM

SITE PLAN LEGEND

SYMBOL	DECRIPTION	DETAIL
	(E) BUILDING	
	BUILDING IN SCOPE OF WORK	
	(E) ITEM	
	(N) ITEM	
	ACCESSIBLE PATH OF TRAVEL PER THIS PROJECT	
	PROPERTY LINE	
	(E) FIRE ACCESS LANE	
	FIRE APPARATUS	

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT:
THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE P.O.T. WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE P.O.T. THAT WERE DETERMINED TO BE NONCOMPLIANT HAVE BEEN IDENTIFIED AND THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS, OR PORTIONS OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS A PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

OPENINGS IN GRATINGS OR STRAINERS LOCATED IN PEDESTRIAN CIRCULATION PATHS OR IN POT SHALL NOT ALLOW PASSAGE OF A SPHERE MORE THAN 1/2" DIA. ELONGATED OPENINGS SHALL BE PLACED SO THAT LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL IN COMPLIANCE WITH SECTION 11B-302.3

PARKING ANALYSIS

PARKING LOT

TOTAL NUMBER OF PARKING STALLS	NO. OF STANDARD ACCESSIBLE STALLS CBC 2025 11B-208.2		NO. OF VAN ACCESSIBLE STALLS CBC 2025 11B-208.2.4	
	REQUIRED	PROVIDED	REQUIRED	PROVIDED
68	3	3	1	1

OVERALL SITE PLAN | B1

1" = 50'-0"

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **10/07/2026**

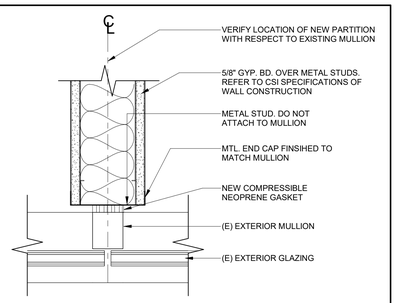
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT
JASON A. BORTZ
NO. C-32176
REN. 07-31-27
STATE OF CALIFORNIA

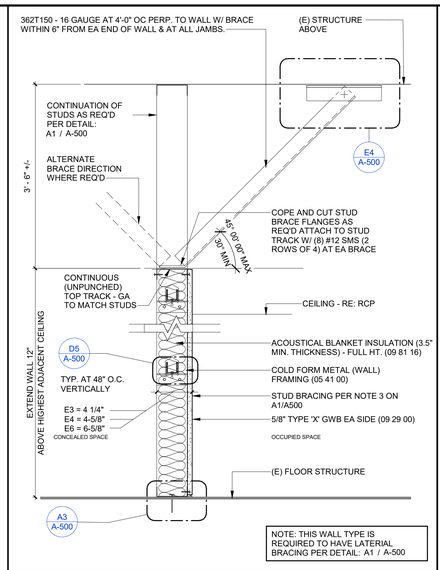
TITLE
ARCHITECTURAL SITE PLAN

SHEET #
A-000



PARTITION TO MULLION DETAIL | E4

3" = 1'-0"

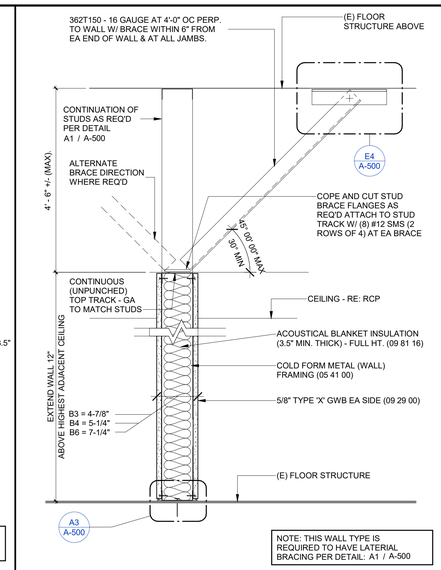


TYPE	STUD SIZE	STC	STUD SPACING	FIRE RATING	UL LISTING	NOTES
E3	362 (3-5/8") S 162 -54	-	16" O.C.	-	-	-

ALL PARTITION TYPES LISTED MAY NOT BE USED IN THIS PROJECT

PARTITION TYPE "E" - PARTIAL HT | C4

FURRING | 1 1/2" = 1'-0"

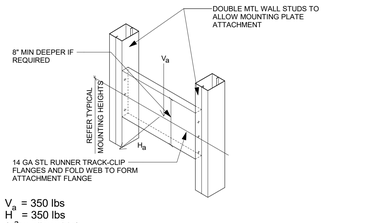


TYPE	STUD SIZE	STC	STUD SPACING	FIRE RATING	UL LISTING	NOTES
B3	362 (3-5/8") S 162 -27	40	16" O.C.	-	-	-

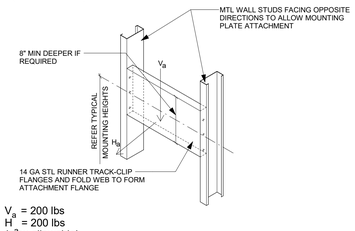
ALL PARTITION TYPES LISTED MAY NOT BE USED IN THIS PROJECT

PARTITION TYPE "B" - PARTIAL HT. | B4

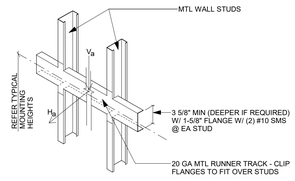
1 1/2" = 1'-0"



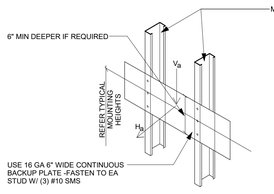
V_a = 350 lbs
H_a = 350 lbs
(max allowable)



V_a = 200 lbs
H_a = 200 lbs
(max allowable)



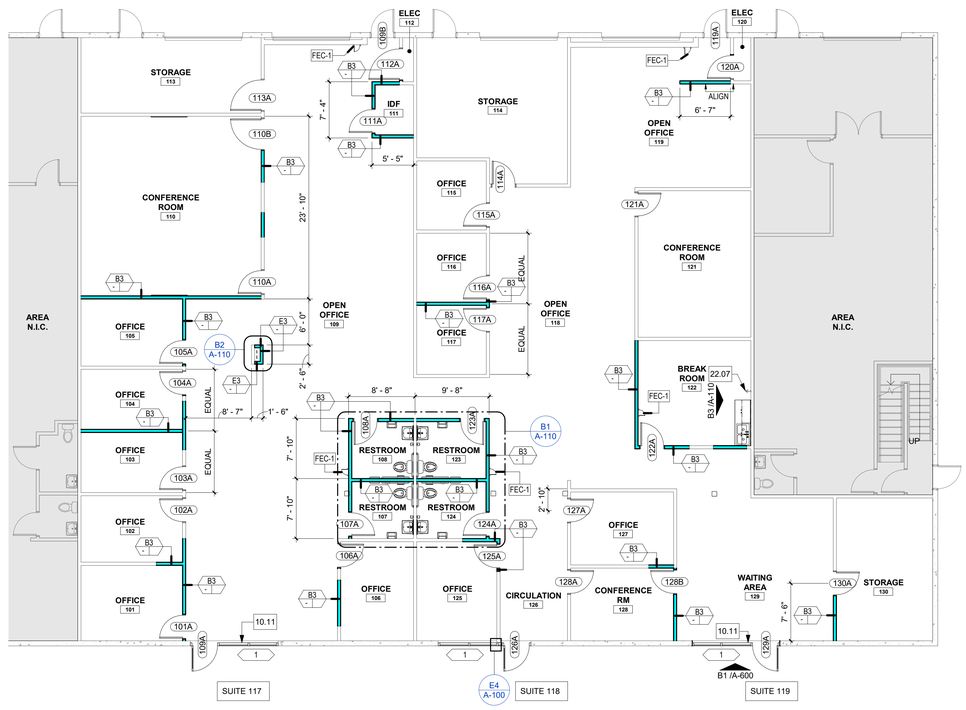
V_a = 50 lbs
H_a = 25 lbs
(max allowable)



V_a = 20 lbs
H_a = 20 lbs
(max allowable)

PARTITION BACKING DETAILS | E1

1/4" = 1'-0"



FLOOR PLAN | B1

1/8" = 1'-0"

KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM
10.11	REINSTALL (E) SHADING DEVICE.
22.07	PROVIDE WATER CONNECTION TO WATER COOLER. - RE: (PLUMBING)

GENERAL FLOOR PLAN NOTES

1. REFER TO SHEET G-001 FOR ADDITIONAL BUILDING INFORMATION.
2. REFER TO SHEET G-001 FOR ALL GRAPHIC SYMBOLS.
3. REFER TO SHEET A-140 FOR MASTER SCHEDULE.
4. ALL DIMENSIONS SHALL BE FROM FINISHED-FACE OF GWB. REFER TO PARTITION TYPES FOR WALL ASSEMBLY THICKNESSES.
5. REFER TO SHEET A-110 FOR PLUMBING FIXTURE AND ACCESSORY MOUNTING HEIGHTS AND REQUIRED CLEARANCES.
6. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING OVERALL DIMENSIONS PRIOR TO FRAMING AND NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES.
7. REFER TO PARTITION SHEETS (A-100 SERIES) FOR ADDITIONAL FRAMING REQUIREMENTS.
8. CONTRACTOR SHALL PROVIDE TEXTURE AND PAINT AT ALL EXISTING SHAFTS AND INTERIOR WALLS TO MATCH NEW WALLS.

AGENCY APPROVAL

5

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FLOOR PLAN LEGEND

SYMBOL	DESCRIPTION
	(E) ITEM
	(N) ITEM
	AREA NOT IN SCOPE OF WORK
	(E) NON-RATED PARTITION
	(E) CONC WALL
	(E) 1-HR FIRE RATED PARTITION
	FULL HEIGHT (FLOOR TO UNDERSIDE OF ROOF/FLOOR DECK) PARTITION WITH SOUND INSULATION
	PARTIAL HEIGHT (FLOOR TO 12" ABOVE HIGHEST ADJACENT CEILING) PARTITION WITH SOUND INSULATION

4

ALL PARTITIONS ARE NEW UNLESS NOTED OTHERWISE - REFER TO FLOOR PLAN FOR WALL TYPES.

NOTE: ALL PARTITION TYPES ARE COLOR CODED AND CAN BE VIEWED IN COLOR VIA ELECTRONIC PDF FILES.

WALL TYPE NOTES

WALL STUD SIZE - RE: PARTITION DETAIL.
EX=EXISTING PARTITION

DENOTES LEAD SHEILDING REQUIREMENTS - RE: LEAD SHEILDING NOTES BELOW.

WALL TYPE - RE: LEGEND BELOW

A## . L##

FIRE RATING IN HOURS. IF NOT RATED, A "-" WILL BE LISTED

DENOTES TYPE OF FIRE PROTECTION FEATURE PER CBC. IF NOT RATED, A "-" WILL BE LISTED

FIRE PROTECTION FEATURE TYPES:

-	INDICATES NO FIRE PROTECTION FEATURE
FW=	FIRE WALL PER CBC 706
FB =	FIRE BARRIER PER CBC 707
FP =	FIRE PARTITION PER CBC 708
SB=	SMOKE BARRIER PER CBC 709
SP=	SMOKE PARTITION PER CBC 710

3 PARTITION LEGEND

B..... B4 / A-100
E..... C4 / A-100

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

2

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

1

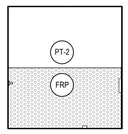
LICENSED ARCHITECT JASON A. POINTER NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

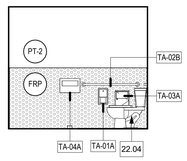
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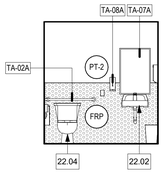
ARCHITECTURAL FLOOR PLAN

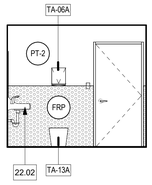
SHEET #

A-100

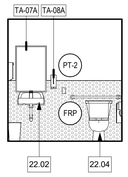


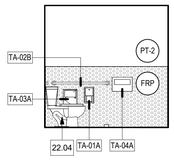


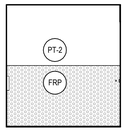


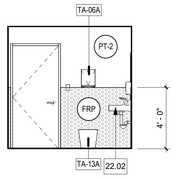


RESTRM 123 & 124 - INT ELEV	F5	RESTRM 123 & 124 - INT ELEV	E5	RESTRM 123 & 124 - INT ELEV	D5	RESTRM 123 & 124 - INT ELEV	C5
	1/4" = 1'-0"		1/4" = 1'-0"		1/4" = 1'-0"		1/4" = 1'-0"

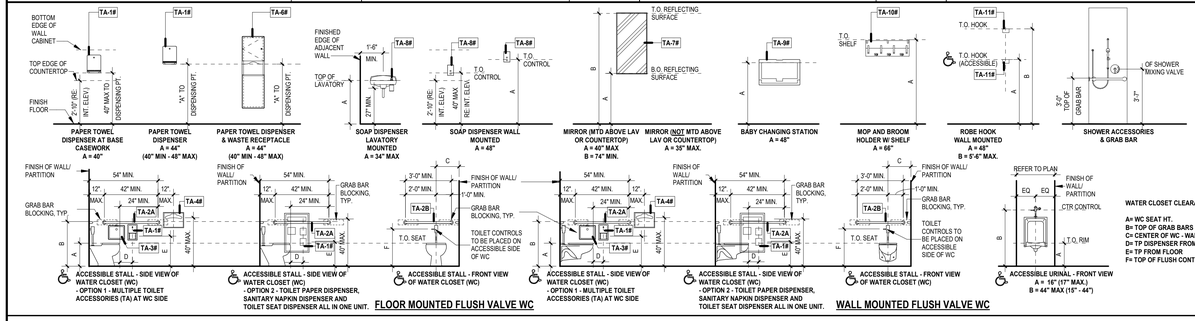






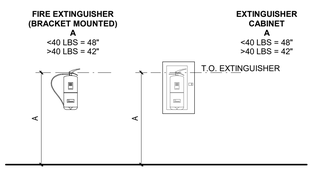


RESTRM 107 & 108 - INT ELEV	F4	RESTRM 107 & 108 - INT ELEV	E4	RESTRM 107 & 108 - INT ELEV	D4	RESTRM 107 & 108 - INT ELEV	C4
	1/4" = 1'-0"		1/4" = 1'-0"		1/4" = 1'-0"		1/4" = 1'-0"

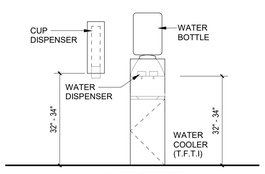


TOILET ACCESSORIES / FIXTURES ADA MOUNTING HEIGHTS (ADULTS)

REFER TO EQUIPMENT SCHEDULE FOR ACCESSORY SPECIFICATIONS



FIRE EXTINGUISHER (FE) & FIRE EXTINGUISHER CABINET (FEC)



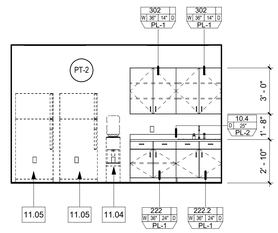
WATER COOLER/ DISPENSER

TYPE MARK	DESCRIPTION	MANUFACTURER	MODEL NO.	FINISHES				FE TYPE	FEC ACCESSORIES	NOTES
				MATERIAL FINISH	CABINET MATERIAL	CABINET TRIM MATERIAL	DOOR GLAZING			
FEC-1	SEMI-RECESSED MTD FIRE EXTINGUISHER CABINET	NYSTROM	FC-7013-A	BAKED ENAMEL - WHITE	COLD ROLLED SHEET STEEL	SAME MATERIAL AND FINISH AS CABINET AND DOOR.	BREAK GLASS	UL RATED 2A10BC - 10-LB NOMINAL CAPACITY	PROVIDE MOUNTING BRACKETS AND DOOR LOCKS	

FIRE EXTINGUISHER CABINET SCHEDULE

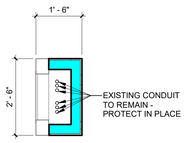
#	DESCRIPTION	MANUFACTURER	MODEL	MOUNTING DETAIL	PROVIDED BY	COMMENTS
TA-01A	TOILET TISSUE DISPENSER - RECESSED MOUNTED	BOBRICK	B-3888		CFCI	
TA-02A	GRAB BAR - 36 INCH	BOBRICK	B-6806x36		CFCI	
TA-02B	GRAB BAR - 42 INCH	BOBRICK	B-6806x42		CFCI	
TA-03A	SANITARY NAPKIN DISPOSAL - SURFACE MOUNTED	BOBRICK	B-254		CFCI	
TA-04A	TOILET SEAT DISPENSER - SURFACE MOUNTED	BOBRICK	B-221		OFCI	
TA-06A	SURFACE MOUNTED PAPER TOWEL DISPENSER	BOBRICK	B-262		OFCI	
TA-07A	MIRROR WITH CHANNEL FRAME	BOBRICK	B-290 2436		CFCI	
TA-08A	AUTOMATIC FOAM SOAP DISPENSER - WALL MOUNTED	BOBRICK	B-2013		OFCI	
TA-13A	7 GALLON TRASH BIN	RUBBERMAID	2099591		OFCI	

TOILET ACCESSORIES & FIXTURES SCHEDULE



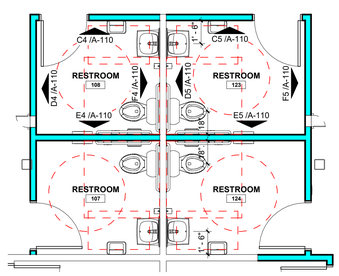
BREAK ROOM 122 - INT ELEV | B3

1/4" = 1'-0"



CHASE WALL | B2

1/2" = 1'-0"



ENLARGED FLOOR PLAN | B1

1/4" = 1'-0"

GENERAL RESTROOM FINISH NOTES

1. ALL DRYWALL ADJACENT TO ALL PLUMBING FIXTURES SHALL BE WATER RESISTANT DRYWALL.
2. THE ARCHITECT'S SCOPE FOR THIS PROJECT DID NOT INCLUDE INTERIOR FINISH SELECTIONS AND THEREFORE ALL INTERIOR FINISH SELECTIONS SHALL BE PER THE TENANT / CLIENT. ALL INTERIOR FINISHES SHALL MEET THE CBC SECTION 1210 TOILET & BATHROOM REQUIREMENTS THAT INCLUDE THE FOLLOWING:
   - A. THE ARCHITECT SHALL PROVIDED INTERIOR FINISH SELECTIONS (RE: MASTER SCHEDULE) WITH THE INTENT OF MEETING THE FOLLOWING CBC SECTION 1210 TOILET & BATHROOM REQUIREMENTS THAT INCLUDE THE FOLLOWING:
   - B. 1210.2.1 FLOORS AND WALL BASES. IN OTHER THAN DWELLING UNITS, TOILET, BATHING AND SHOWER ROOM FLOOR FINISH MATERIALS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE. THE INTERSECTIONS OF SUCH FLOORS WITH WALLS SHALL HAVE A SMOOTH, HARD, NONABSORBENT VERTICAL BASE THAT EXTENDS UPWARD ONTO THE WALLS NOT LESS THAN 4 INCHES (102 MM).
   - C. 1210.2.2 WALLS AND PARTITIONS. WALL AND PARTITIONS WITHIN 2 FEET (610MM) OF SERVICE SINKS, URINALS AND WATER CLOSETS SHALL HAVE A SMOOTH, HARD, NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 4 FEET (1219MM) ABOVE THE FLOOR AND EXCEPT FOR STRUCTURAL ELEMENTS, THE MATERIALS USED IN SUCH WALLS SHALL BE OF A TYPE THAT IS NOT ADVERSELY AFFECTED BY MOISTURE. ACCESSORIES SUCH AS GRAB BARS, TOWEL BARS, PAPER DISPENSERS AND SOAP DISHES, PROVIDED ON OR WITHIN WALLS, SHALL BE INSTALLED AND SEALED TO PROTECT STRUCTURAL ELEMENTS FROM MOISTURE.
   - D. 1210.2.3 SHOWERS. SHOWER COMPARTMENTS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A SMOOTH, NONABSORBENT SURFACE TO A HEIGHT NOT LESS THAN 72 INCHES (1829 MM) ABOVE THE DRAIN INLET.
   - E. 1210.2.4 WATERPROOF JOINTS. BUILT-IN TUBS WITH SHOWERS SHALL HAVE WATERPROOF JOINTS BETWEEN THE TUB AND ADJACENT WALL.
   - F. 1210.3 PRIVACY. PRIVACY AT WATER CLOSETS AND URINALS SHALL BE PROVIDED IN ACCORDANCE WITH SECTIONS 1210.3.1 AN 1210.3.2.
   - G. 1210.3.1 WATER CLOSET COMPARTMENT. EACH WATER CLOSET UTILIZED BY THE PUBLIC OR EMPLOYEES SHALL OCCUPY A SEPARATE COMPARTMENT WITH WALLS OR PARTITIONS AND A DOOR ENCLOSING THE FIXTURES TO ENSURE PRIVACY.

   EXCEPTIONS:
   1. WATER CLOSET COMPARTMENTS SHALL NOT BE REQUIRED IN A SINGLE-OCCUPANT TOILET ROOM WITH A LOCKABLE DOOR.
3. 1210.3.2 URINAL PARTITIONS. EACH URINAL UTILIZED BY THE PUBLIC OR EMPLOYEES SHALL OCCUPY A SEPARATE AREA WITH WALLS OR PARTITIONS TO PROVIDE PRIVACY. THE WALLS OR PARTITIONS SHALL BEGIN AT A HEIGHT NOT MORE THAN 12 INCHES (305 MM) FROM AND EXTEND NOT LESS THAN 60 INCHES (1524 MM) ABOVE THE FINISH FLOOR SURFACE. THE WALLS OR PARTITIONS SHALL EXTEND FROM THE WALL SURFACE AT EACH SIDE OF THE URINAL NOT LESS THAN 18 INCHES (457 MM) OR TO A POINT NOT LESS THAN 6 INCHES (152 MM) BEYOND THE OUTERMOST FRONT LIP OF THE URINAL MEASURED FROM THE FINISHED BACKWALL SURFACE, WHICHEVER IS GREATER.

   EXCEPTION:
   1. URINAL PARTITIONS SHALL NOT BE REQUIRED IN A SINGLE-OCCUPANT OR FAMILY OR ASSISTED-USE TOILET ROOM WITH A LOCKABLE DOOR.

KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM
11.04	WATER COOLER (OFOI) - CONNECT WATER AND POWER.
11.05	REFRIGERATOR (OFOI)
22.02	(N) LAVATORY
22.04	(N) FLOOR MOUNTED TOILET

AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. DONATE NO. C-32176 REV. 07-31-27 STATE OF CALIFORNIA

TITLE

ENLARGED FLOOR PLANS & INTERIOR ELEVATIONS

SHEET #

A-110



KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM

REFLECTED CEILING PLAN LEGEND

SYMBOL	DESCRIPTION	DETAIL
	(E) ITEM	
	(N) ITEM	
	HVAC REGISTER (REF MECH)	
	SUSPENDED CEILING GRID SYSTEM	C1 / A-520
	FRAMED CEILING/ SOFFIT	RE: RCP
	ILLUMINATED EXIT SIGNAGE	RE: ELEC DWGS
	2 X 4 LAY-IN LIGHT FIXTURE	RE: ELEC DWGS
	6" X 4' LAY-IN LIGHT FIXTURE	RE: ELEC DWGS
	RECESSED CAN LIGHT FIXTURE	RE: ELEC DWGS
	GRID ORIGIN	

GENERAL RCP NOTES

1. CONTRACTOR SHALL COORDINATE ALL MECHANICAL GRILLS & DIFFUSERS WITH MECHANICAL.
2. REFER TO SHEET G-001 FOR ALL GRAPHIC SYMBOLS.
3. REFER TO SHEET A-140 FOR MASTER SCHEDULE.
4. CONTRACTOR SHALL COORDINATE ALL LIGHTING & SWITCH SPECS & LOCATIONS WITH ELECTRICAL. ALL FIXTURES SHOWN ARE FOR QUANTITY AND LOCATION ONLY. REFER TO ENGINEERING DRAWINGS FOR TECHNICAL INFORMATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BETWEEN ARCHITECTURAL & ENGINEERING DRAWINGS PROMPTLY. ARCHITECTURAL DRAWINGS WILL GOVERN FOR LOCATIONS AND QUANTITIES.
5. ALL LIGHTING FIXTURES LOCATED IN THE ACOUSTICAL CEILING PANELS ARE TO BE CENTERED IN THE PANEL, UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL COORDINATE ALL ABOVE CEILING UTILITY ROUTES WITH ALL TRADES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ARCHITECT OF ANY DISCREPANCIES / CLEARANCE HEIGHT ISSUES.
7. RE: MASTER SCHEDULE (A-140 SERIES) FOR ACP SPECIFICATIONS (09 51 13).
8. ALL GWB CEILINGS, SOFFITS AND COVES (INCLUDING ALL INSIDE SURFACES OF COVES) SHALL BE LEVEL 5 FINISHED PAINTED PT-1 (RE: MASTER SCHEDULE (SHEET A-140)).
9. CENTER NEW CEILING GRID IN EACH ROOM OR SPACE AS ILLUSTRATED ON RCP UNLESS INDICATED WITH A GRID ORIGIN OR DIMENSION.

FIRE SPRINKLER NOTES

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING FIRE SPRINKLER SHOP DRAWINGS AND SUBMITTING THEM TO THE AUTHORITY HAVING JURISDICTION (AHJ) FOR APPROVAL.
2. SPRINKLER HEADS SHALL BE CENTERED ON GRID PANELS.
3. THE NEW PROJECT SUITE SHALL BE EQUIPPED WITH NEW FIRE SPINKLER HEADS – FULLY CONCEALED WITH FACTORY FINISHED "WHITE" COVERS (NO FIELD PAINTING ALLOWED).
4. CONTRACTOR SHALL ROUTE ALL NEW SPRINKLER LINES ABOVE CEILING AS REQUIRED TO MAINTAIN REQUIRED CEILING HEIGHTS AND UTILITY CLEARANCES SET FORTH IN THE MPET DOCUMENTS.
5. RE: DIVISION 21 SPECIFICATION SECTIONS FOR ADDITIONAL SPRINKLER BASIS OF DESIGN REQUIREMENTS.

REFLECTED CEILING PLAN | **B1**

1/8" = 1'-0"

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

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DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT
JASON A. POMANTE
NO. C-32176
REN. 07-31-27
STATE OF CALIFORNIA

TITLE

REFLECTED CEILING PLAN

SHEET #

A-120

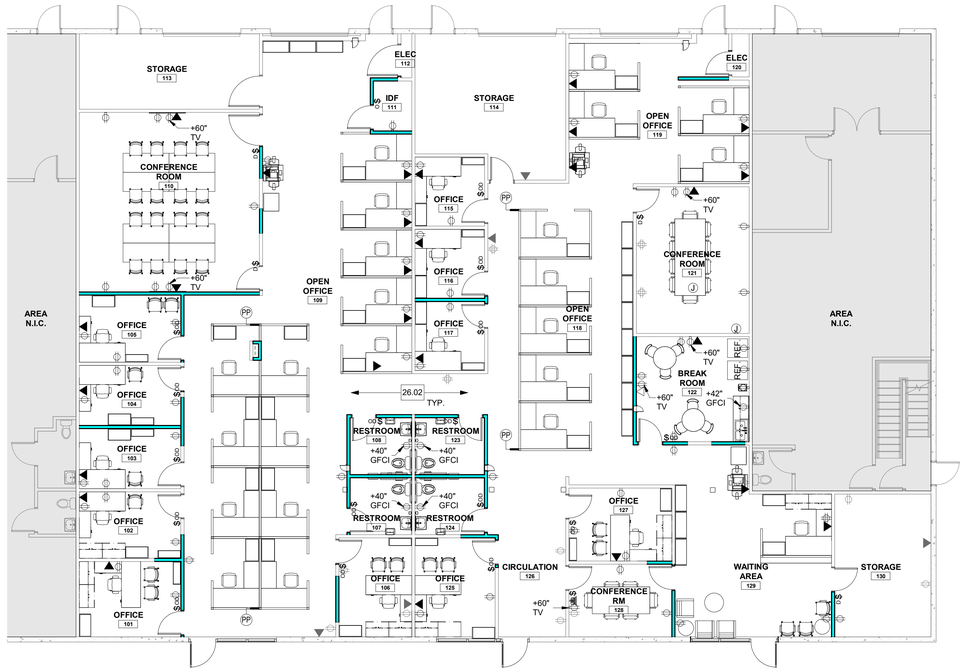
KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM
26.02	PROVIDE (9) WAPs (APPROX 3) IN EACH SUITE - LOCATION TBD IN THE FIELD.

GENERAL FURNITURE & APPLIANCE NOTES

1. THERE MAY BE ADDITIONAL FURNITURE AND MOBILE FIXTURES THAT ARE NOT SHOWN IN THESE DRAWINGS SO CONTRACTOR SHALL OBTAIN ALL FURNITURE DOCUMENTS FROM THE OWNER.
2. PRIOR TO FINAL ROUGH-IN, CONTRACTOR SHALL SCHEDULE A SITE MEETING WITH THE FURNITURE REPRESENTATIVE AND CLIENT REPRESENTATIVE TO REVIEW ALL PROPOSED POWER AND DATA LOCATIONS ONCE THE WALLS ARE CONSTRUCTED BUT BEFORE POWER AND DATA IS ROUGHED IN.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE DELIVERY AND INSTALLATION OF ALL FURNISHINGS AND EQUIPMENT PRIOR TO CASEWORK FABRICATION AND INSTALLATION.
4. ALL COMPUTER/ IT FIXTURES SHOWN IN THESE DOCUMENTS ARE FOR REFERENCE ONLY. CONTRACTOR SHALL OBTAIN A FULL FIXTURE LIST FROM OWNER.
5. RE: SHEET G-001 FOR ALL SYMBOL DEFINITIONS
6. RE: SHEET G-001 FOR ABBREVIATION LEGEND
7. RE: SHEET SERIES A-140 FOR MASTER SCHEDULE
8. CONTRACTOR SHALL COORDINATE THE FOLLOWING DESIGN DETAILS IN CONJUNCTION WITH ELECTRICAL & TECHNOLOGY DOCUMENTS:

RE: INTERIOR ELEVATIONS, CASEWORK SECTIONS AND CASEWORK ELEVATIONS SHEETS FOR OUTLET REQUIREMENTS AT CASEWORK.



POWER AND EQUIPMENT PLAN | B1

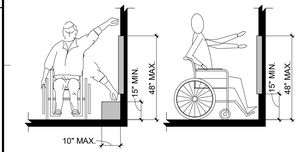
1/8" = 1'-0"

AGENCY APPROVAL

studio+

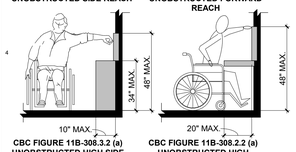
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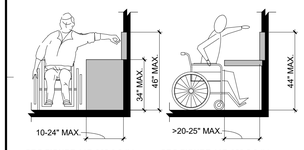
CBC FIGURE 11B-308.3.1 UNOBSTRUCTED SIDE REACH

CBC FIGURE 11B-308.1.1 UNOBSTRUCTED FORWARD REACH



CBC FIGURE 11B-308.3.2 (a) UNOBSTRUCTED HIGH SIDE REACH

CBC FIGURE 11B-308.2.2 (a) UNOBSTRUCTED HIGH FORWARD REACH



CBC FIGURE 11B-308.3.2 (b) UNOBSTRUCTED HIGH SIDE REACH

CBC FIGURE 11B-308.2.2 (b) UNOBSTRUCTED HIGH FRONT REACH

1. ALL OUTLETS (POWER / DATA) AND T-STATS TO BE MOUNTED TO MEET SIDE APPROACH CLEARANCES. REFER TO MPET DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
2. ALL PLUMBING CONTROLS SHALL MEET FRONT APPROACH WHEN FIXTURES ARE DESIGNED FOR FRONT APPROACH.
3. ALL TOILET ACCESSORIES SHALL MEET SIDE APPROACH REQUIREMENTS WHEN ACCESSIBLE FROM SIDE AND FRONT APPROACH WHEN ACCESSIBLE FROM FRONT.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

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DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

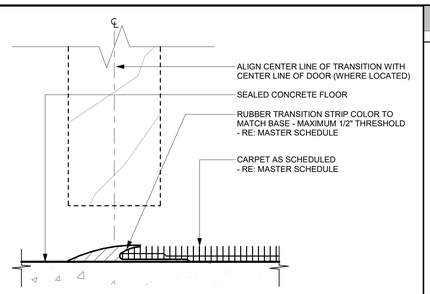
LICENSED ARCHITECT JASON A. RAMIREZ NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

POWER & EQUIPMENT PLAN

SHEET #

A-130



THRESHOLD - CONC. TO CARPET | B5

12" = 1'-0"

302.1 GENERAL. FLOOR AND GROUND SURFACES SHALL BE STABLE, FIRM, AND SLIP RESISTANT AND SHALL COMPLY WITH SECTION 11B-302.

EXCEPTIONS:
1. WITHIN ANIMAL CONTAINMENT AREAS, FLOOR AND GROUND SURFACES SHALL NOT BE REQUIRED TO BE STABLE, FIRM, AND SLIP RESISTANT.
2. AREAS OF SPORT ACTIVITY SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-302.

302.2 CARPET. CARPET OR CARPET TILE SHALL BE SECURELY ATTACHED AND SHALL HAVE A FIRM CUSHION, PAD, OR BACKING OR NO CUSHION OR PAD. CARPET OR CARPET TILE SHALL HAVE A LEVEL LOOP, TEXTURED LOOP, LEVEL CUT PILE, OR LEVEL CUT/UNCUT PILE TEXTURE. PILE HEIGHT SHALL BE 1/2 INCH (12.7 MM) MAXIMUM. EXPOSED EDGES OF CARPET SHALL BE FASTENED TO FLOOR SURFACES AND SHALL HAVE TRIM ON THE ENTIRE LENGTH OF THE EXPOSED EDGE. CARPET EDGE TRIM SHALL COMPLY WITH SECTION 11B-303.

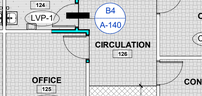
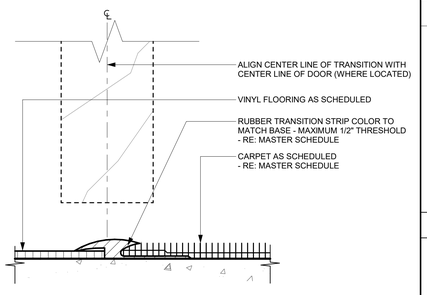


FIGURE 11B-302.2
CARPET PILE HEIGHT

ACCESSIBLE FLOOR SURFACE REQUIREMENTS - CARPET | C4

12" = 1'-0"



THRESHOLD - CARPET TO VINYL | B4

12" = 1'-0"

FINISH FLOOR PLAN | B1

1/8" = 1'-0"

KEYNOTE LEGEND

NUMBER	PROVIDE WORK / ITEM

GENERAL FINISH PLAN NOTES

1. REFER TO SHEET G-001 FOR ALL GRAPHIC SYMBOLS.
2. REFER TO SHEET A-140 FOR MASTER SCHEDULE.
3. CONTRACTOR SHALL SCHEDULE A PRE-FINISH MEETING WITH OWNER, TENANT AND ARCHITECT UPON THE COMPLETION OF WALL CONSTRUCTION TO WALK THROUGH ALL SPACES TO VERIFY WALL COVERING / PAINT FINISHES.
4. REFER TO INTERIOR ELEVATIONS FOR ADDITIONAL FINISH REQUIREMENTS.
5. ALL WALLS TO RECEIVE A LEVEL 5 FINISH AND SHALL BE PT-1 THROUGHOUT U.N.O.
6. ALL CEILING SOFFITS SHALL RECEIVE A LEVEL 5 FINISH AND SHALL BE PT-1 U.N.O.
7. ALL EXISTING EXPOSED GWB WALLS (EXTERIOR/ DEMISING/ OTHER INTERIOR) AND CEILINGS SHALL BE TAPED, TEXTURED (LEVEL 5) AND PAINTED. THIS INCLUDES ALL WINDOW SILLS AND HEADERS AND DOOR HEADERS.
8. ALL FINISH TRANSITIONS / THRESHOLDS SHALL COMPLY WITH THE FOLLOWING: B4 / A-140

FINISH LEGEND

CARPET TILE

CPT-1 CARPET TILE
MFR: BENTLEY MILLS
STYLE: **(OWNER FURNISHED, CONTRACTOR INSTALLED)**
COLOR:
SIZE:
INSTALLATION:
BACKING:

WALK-OFF MATT

CPT-2 CARPET WALK-OFF MAT ON SPECIFIED FLOOR MAT
MFR: BENTLEY MILLS
STYLE:
COLOR: **(OWNER FURNISHED, CONTRACTOR INSTALLED)**
SIZE:
INSTALLATION:
BACKING:

VINYL

LVP-1 LUXURY VINYL PLANK
MFR: **(OWNER FURNISHED, CONTRACTOR INSTALLED)**
STYLE:
COLOR:
FINISH:
EDGE:
CONTACT:

CONCRETE FLOOR SEALER

SC-1 MFR:
PRODUCT: **(OWNER FURNISHED, CONTRACTOR INSTALLED)**
PREP:

VINYL

VCT-1 VINYL COMPOSITE TILE (ANTI-STATIC)
MFR: ARMSTRONG
STYLE: EXCELON SDT
COLOR: RIDGE 51957
(OWNER FURNISHED, CONTRACTOR INSTALLED)

BASE

NOTE: CONTRACTOR TO INSTALL **B-1** UNLESS OTHERWISE NOTED IN FINISH PLAN

B-1 BASE - RUBBER (TYP., U.O.N.)
MFR: BURKE MERCER
COLOR: BLACK
STYLE: (STRAIGHT IN CARPET AREAS COVE IN BREAKROOM, STORAGE, RESTROOMS)
SIZE: 4" BASE

INTERIOR PAINT

NOTE: CONTRACTOR TO PAINT **PT-1** UNLESS OTHERWISE NOTED IN FINISH PLAN

PT-1 INTERIOR PAINT (TYP., U.O.N.)
MFR: DUNN EDWARDS
COLOR: SWISS COFFEE (DEW 341)
SHEEN: EGGSHELL

PT-2 INTERIOR PAINT (ACCENT PAINT - BREAK ROOM, CONFERENCE ROOMS)
MFR: DUNN EDWARDS
COLOR: PEWTER PATTERS (DET 627)
SHEEN: EGGSHELL

PT-3 INTERIOR PAINT (DOOR/FRAME)
MFR: DUNN EDWARDS
COLOR: OLD MILL (DEW 185)
SHEEN: SEMI-GLOSS

CEILING TILE

ACP-1 ACOUSTIC PANEL CEILING
MANUFACTURER: ARMSTRONG
PRODUCT: FINE FISSURED #1714
SIZE: 24x48
COLOR: WHITE
GRID: 15/16"

WALL PANELS

FRP FIBERGLASS REINFORCED PANEL
MANUFACTURER: MARLITE
PRODUCT: PEBBLED
SIZE: 24x48
COLOR: P100 WHITE

PLASTIC LAMINATE

PL-1 PLASTIC LAMINATE
MANUFACTURER: NEVAMAR
PRODUCT:
COLOR: S-2069 BETHANY BEIGE
TEXTURE: ARP (T) TEXTURED FINISH

STONE COUNTERTOP

ST-1 STONE (QUARTZ)
MANUFACTURER: WILSONART
PRODUCT:
COLOR: Q4032 HALDI
FINISH: POLISHED FINISH

AGENCY APPROVAL

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3001 RED HILL AVENUE, SUITE 117, 118, 119,
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-

DATE **10/07/2026**

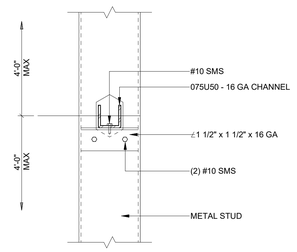
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. BONITE NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

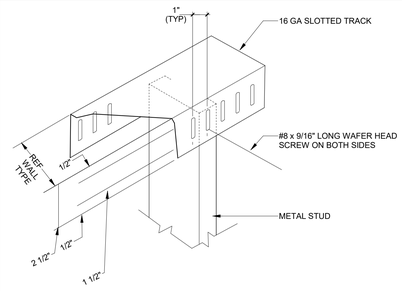
TITLE
INTERIOR FINISH PLAN

SHEET #
A-140



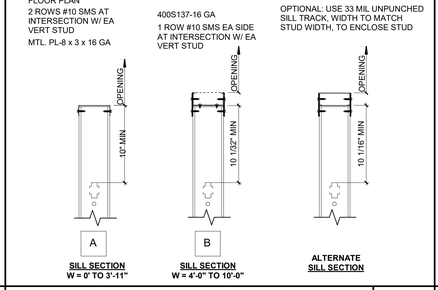
MTL STUD BRIDGING WHERE REQ'D — D5

3" = 1'-0"



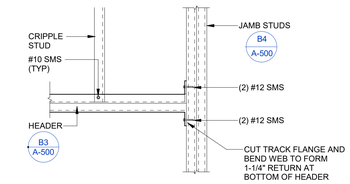
SLOTTED MTL TRACK — C5

3" = 1'-0"



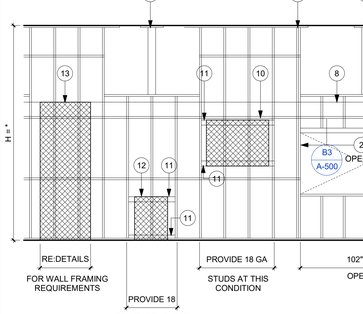
MTL STUD OPENING FRAMING SILL SECTION — B5

1 1/2" = 1'-0"



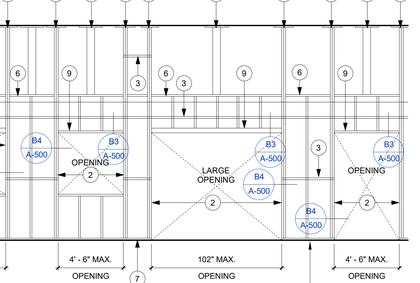
MTL STUD HEADER CONNECTION — A5

1/2" = 1'-0"



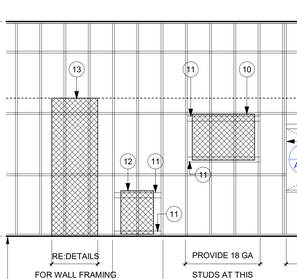
WALL BRACING TO WOOD STRUCTURE CONNECTION — E4

3" = 1'-0"



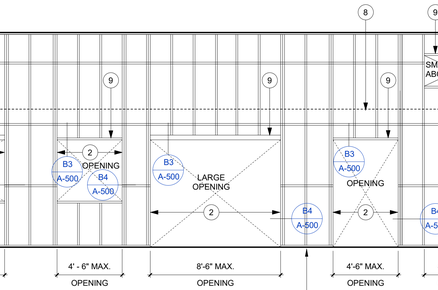
WALL TO FLR & PIPE PENETRATION — D4

1 1/2" = 1'-0"



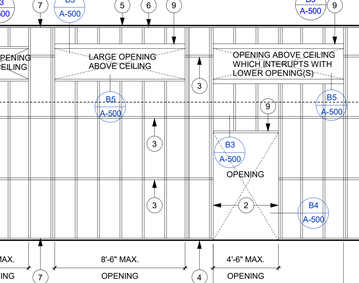
MTL STUD WALL DETAILS — C4

1" = 1'-0"



MTL STUD OPENING FRAMING JAMB SECTION — B4

1 1/2" = 1'-0"



TYP JAMB TO BOTTOM TRACK — A4

1 1/2" = 1'-0"

TYP NON-BEARING WALL ANCHORAGE — D3

3" = 1'-0"

MTL STUD TRACK SPLICE — C3

1/2" = 1'-0"

MTL STUD OPENING FRAMING HEADER SECTION — B3

1 1/2" = 1'-0"

TYP WALL BASE — A3

3" = 1'-0"

H" = 15'- 0" MAX. FOR THIS PROJECT.

GENERAL NOTES

1. "XXX" REFERENCES STUD DEPTH - RE: WALL TYPES.
2. SLOTTED TRACK AND BASE TRACK SHALL MATCH WALL STUD SIZE AND GUAGE UNLESS NOTED OTHERWISE - RE PARTITION TYPES.
3. LATERAL BRACING AT 4'-0" O.C. (MAX.) VERTICALLY. LATERAL BRACING NOT REQUIRED WHERE GWB OCCURS ON BOTH SIDES OF PARTITION WALL.
4. EXISTING FLOOR & ROOF STRCUTURE - EXISTING 3.25" LIGHTWEIGHT CONCRETE OVER 18 GA METAL DECK.

KEYNOTES

1. BASE TRACK - RE: PARTITION TYPE DETAILS.
2. DOOR/OPENING JAMB.
3. LATERIAL BRACING - RE: GENERAL NOTE 3.
4. EXISTING FLOOR STRUCTURE - RE: GENERAL NOTE #4.
5. EXISTING FLOOR/ ROOF STRUCTURE ABOVE - RE: GENERAL NOTE #4.
6. SLOTTED SLIP TRACK.
7. TRACK SPLICE WHERE OCCURS.
8. CEILING WHERE OCCURS - RE: RCP.
9. METAL STUD HEADER.
10. SMALL WALL MOUNTED UPPER CABINETS, SHELVING LOCATIONS. REFER TO SPECIFIC DETAILS REFERENCED IN ACCESSORY OR CASEWORK DETAILS.
11. METAL BACKING - SCREW ATTACHED TO STUD(S) AS DETAILED.
12. BASE CABINETS.
13. STONE VENEER, LARGE CASEORK OR EQUIPMENT - RE: PLANS AND DETAILS FOR EACH ITEM.
14. PROVIDE DIAGONAL BRACING AT 48" AND MID SPAN - RE: PARTITION DETAILS.
15. CONTINUE OPENING JAMB FRAMING TO ROOF DECK.

FRAMING ELEVATION DIAGRAM AT PARTIAL HEIGHT PARTITION

FRAMING ELEVATION DIAGRAM AT FULL HEIGHT PARTITION

WALL PARTITION FRAMING ELEVATION DIAGRAM — A1

1/4" = 1'-0"

AGENCY APPROVAL

5

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

WALL TYPE NOTES

WALL STUD SIZE - RE: PARTITION DETAIL. EX=EXISTING PARTITION

WALL TYPE - RE: LEGEND BELOW

DENOTES LEAD SHEILDING REQUIREMENTS - RE: LEAD SHEILDING NOTES BELOW.

A# L#

FP

FIRE RATING IN HOURS. IF NOT RATED, A "-" WILL BE LISTED

DENOTES TYPE OF FIRE PROTECTION FEATURE PER CBC. IF NOT RATED, A "-" WILL BE LISTED

FIRE PROTECTION FEATURE TYPES:

-	INDICATES NO FIRE PROTECTION FEATURE
FW=	FIRE WALL PER CBC 706
FB =	FIRE BARRIER PER CBC 707
FP =	FIRE PARTITION PER CBC 708
SB=	SMOKE BARRIER PER CBC 709
SP=	SMOKE PARTITION PER CBC 710

PARTITION LEGEND

B..... B4 / A-100

E..... C4 / A-100

WALL MARKING AND IDENTIFICATION

PER CBC SECTION 703.7, WHERE THERE IS AN ACCESSIBLE CONCEALED FLOOR, FLOOR-CEILING OR ATTIC SPACE, FIRE WALLS (FW), FIRE PARTITIONS (FP), SMOKE BARRIERS (SB) AND SMOKE PARTITIONS (SP) OR ANY OTHER WALL REQUIRED TO HAVE PROTECTED OPENINGS OR PENETRATIONS SHALL BE EFFECTIVELY AND PERMANENTLY IDENTIFIED WITH SIGNS OR STENCILING IN THE CONCEALED SPACE. SUCH IDENTIFICATION SHALL:

3

INCLUDE LETTERING NOT LESS THAN 3 INCHES IN HEIGHT WITH A MINIMUM 3/8 INCH STROKE IN A CONTRASTING COLOR INCORPORATING THE WALL PROTECTION FEATURE TYPE (SUCH AS FIRE PARTITION) AND THE PHRASE: "PROTECT ALL OPENINGS AND PENETRATIONS" (CFCI).

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

2

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

1

LICENSED ARCHITECT JASON A. BONITE NO. C-32176 REN 07-31-27 STATE OF CALIFORNIA

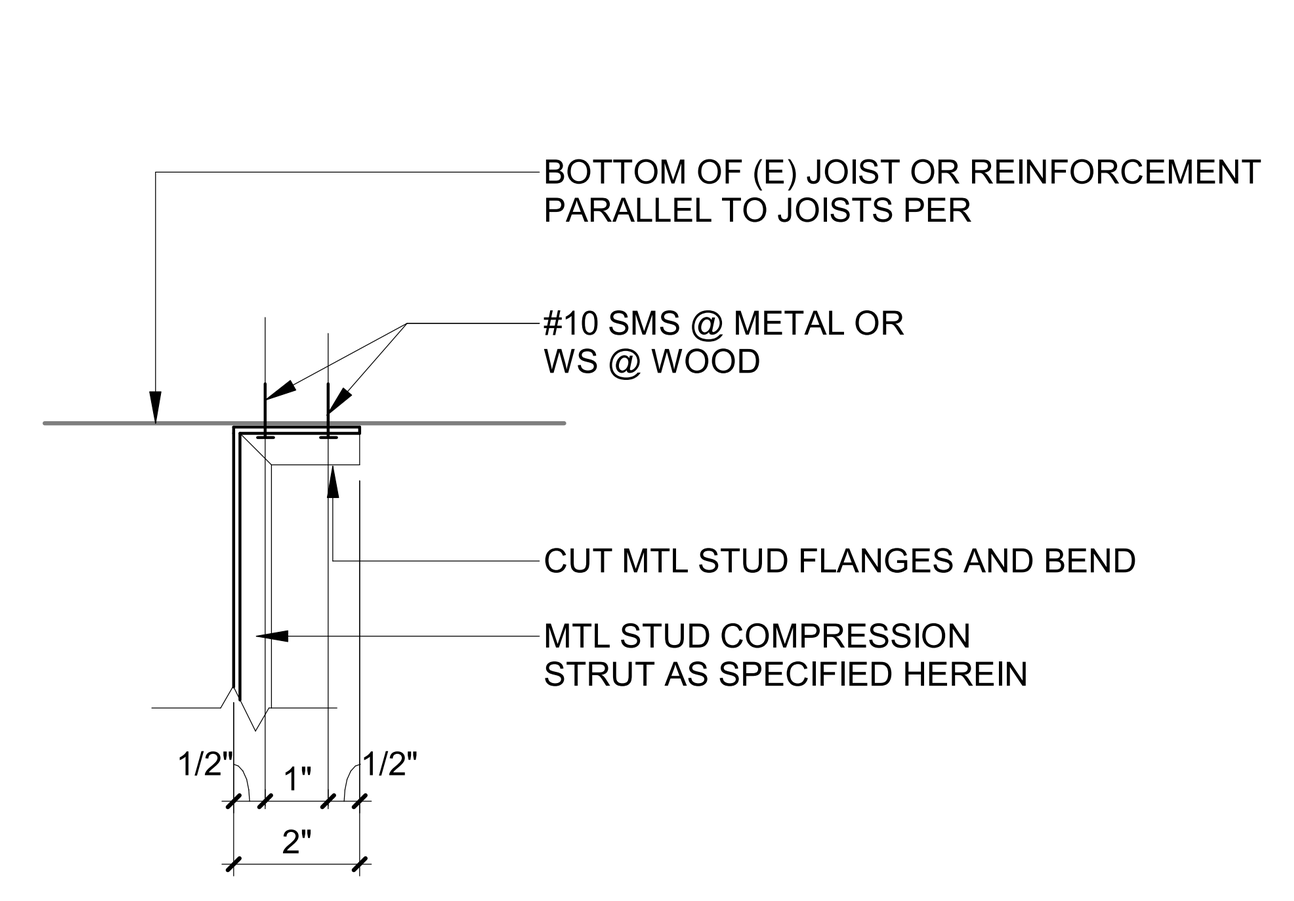
TITLE

FRAMING DETAILS

SHEET #

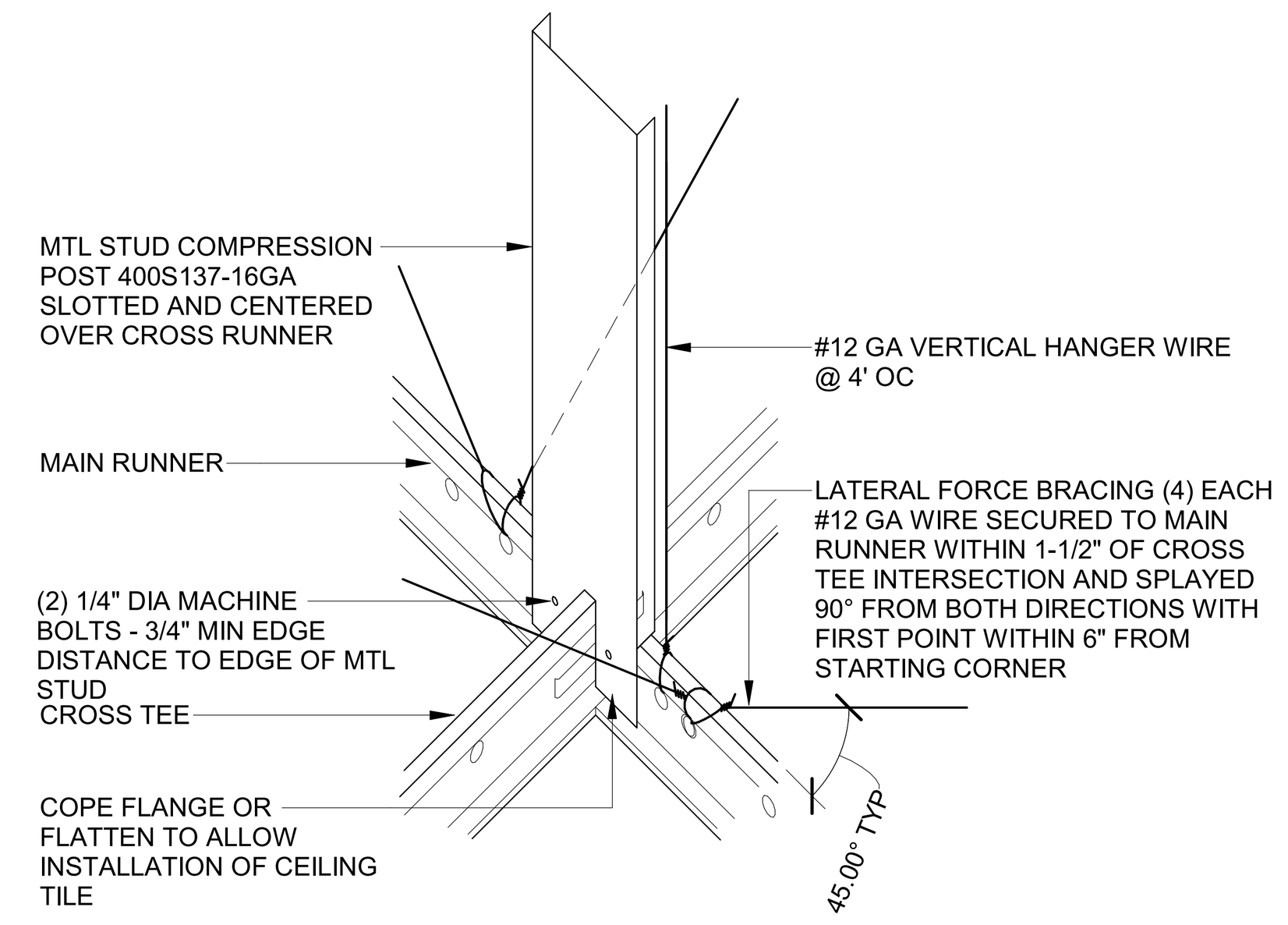
A-500

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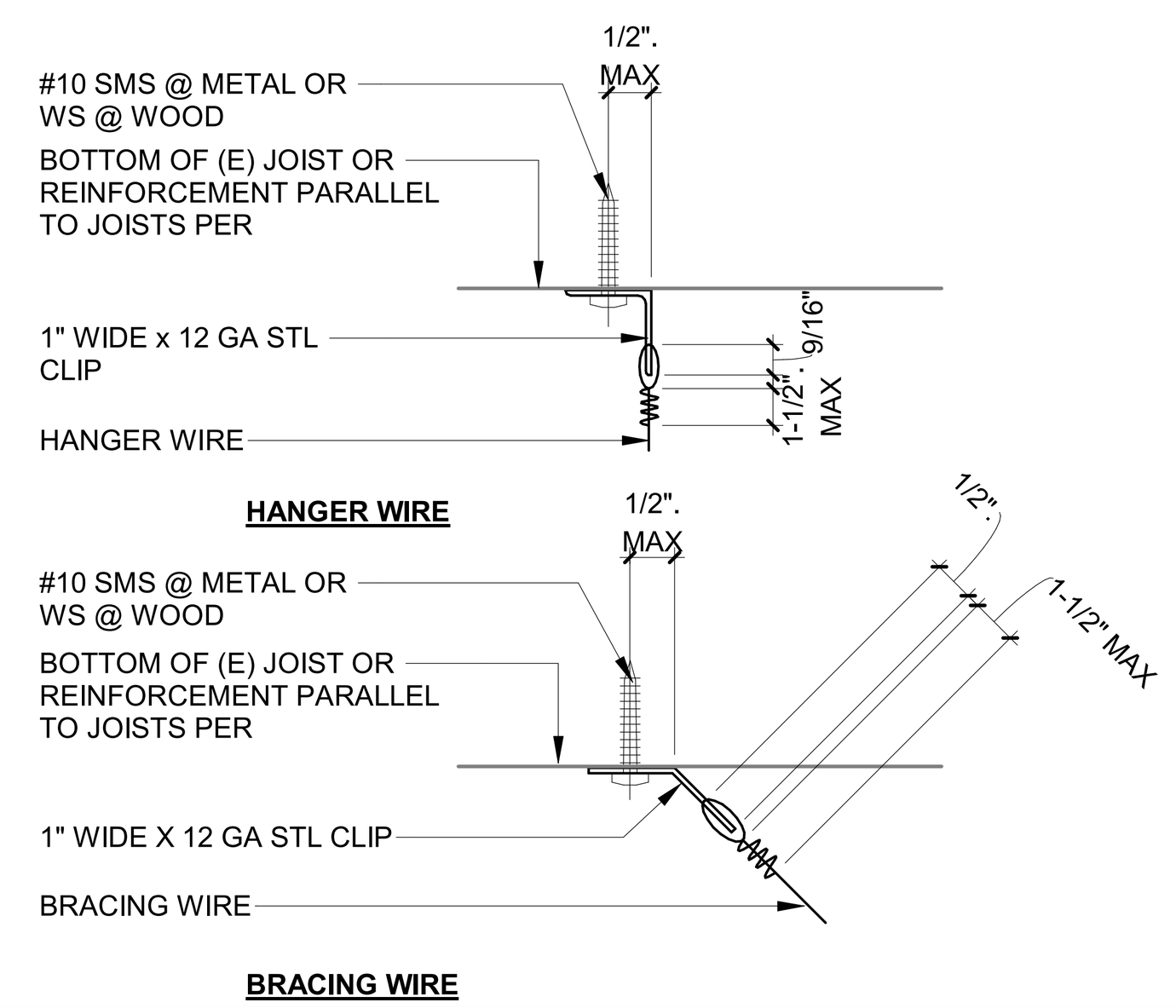
COMPRESSION STRUT TO DECK — D5

3" = 1'-0"



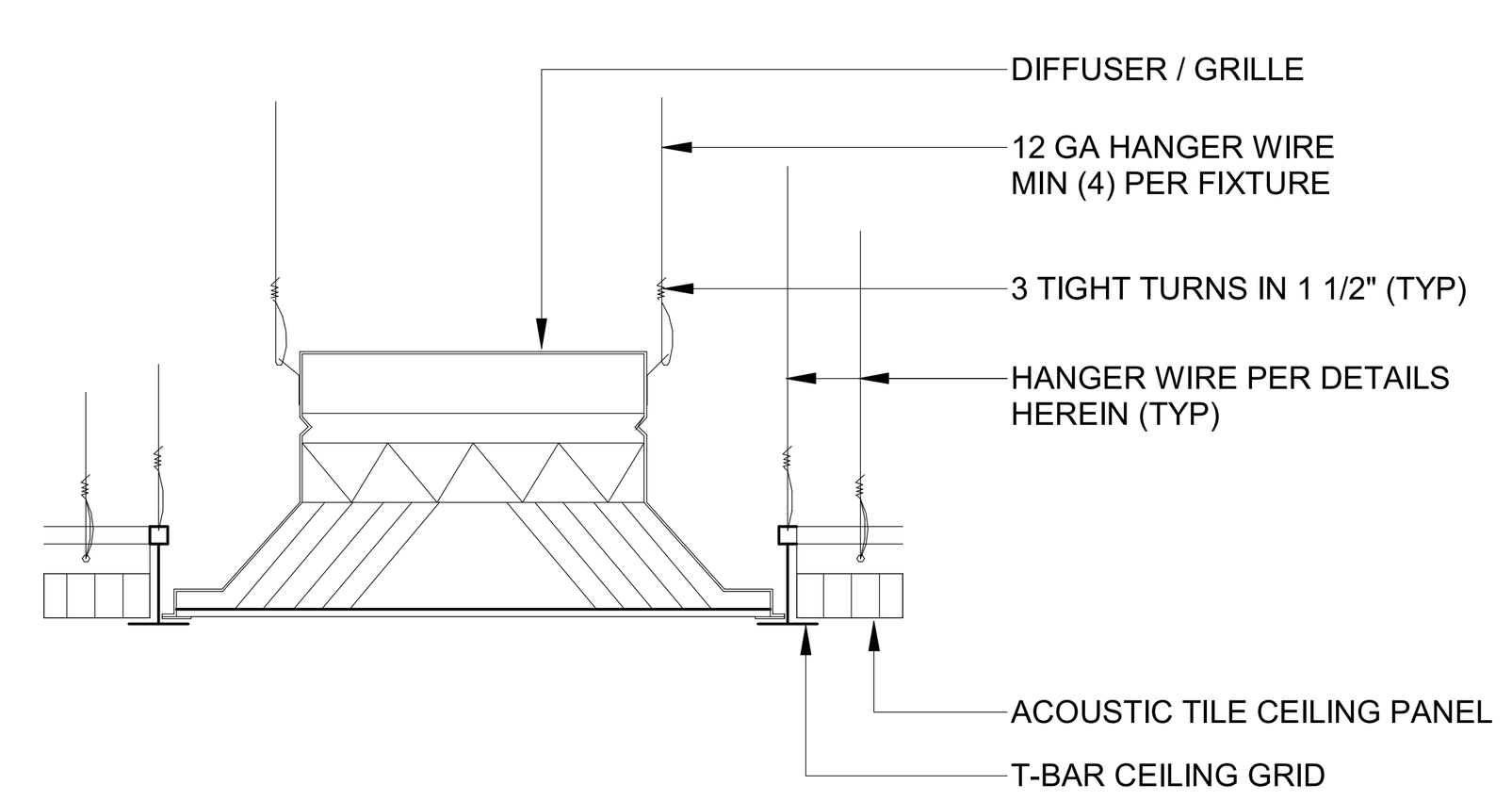
COMPRESSION STRUT TO T-BAR CLG — D4

3" = 1'-0"



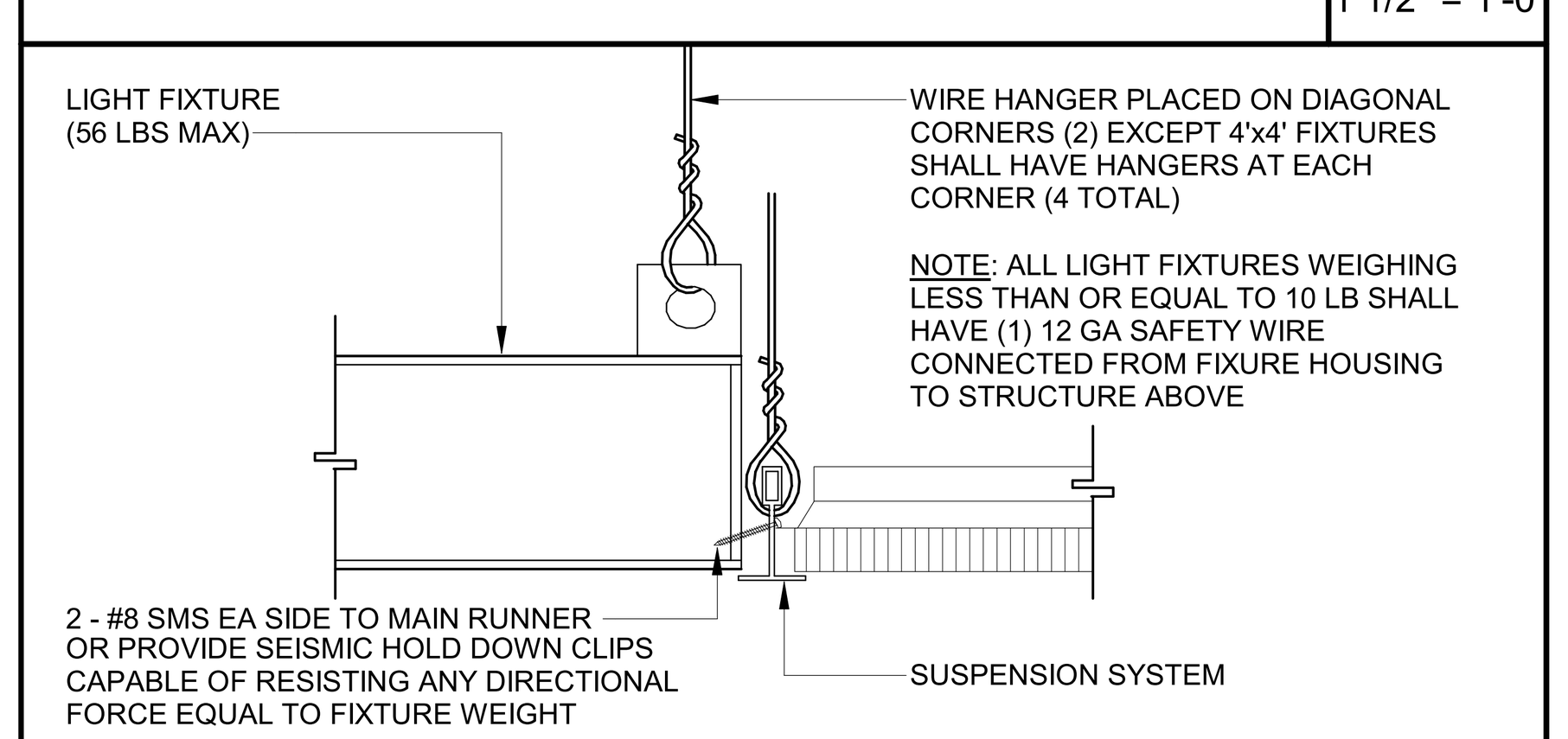
BRACING & HANGER WIRE TO DECK — D3

3" = 1'-0"



MECH REGISTER AT T-BAR CLG — D2

1 1/2" = 1'-0"

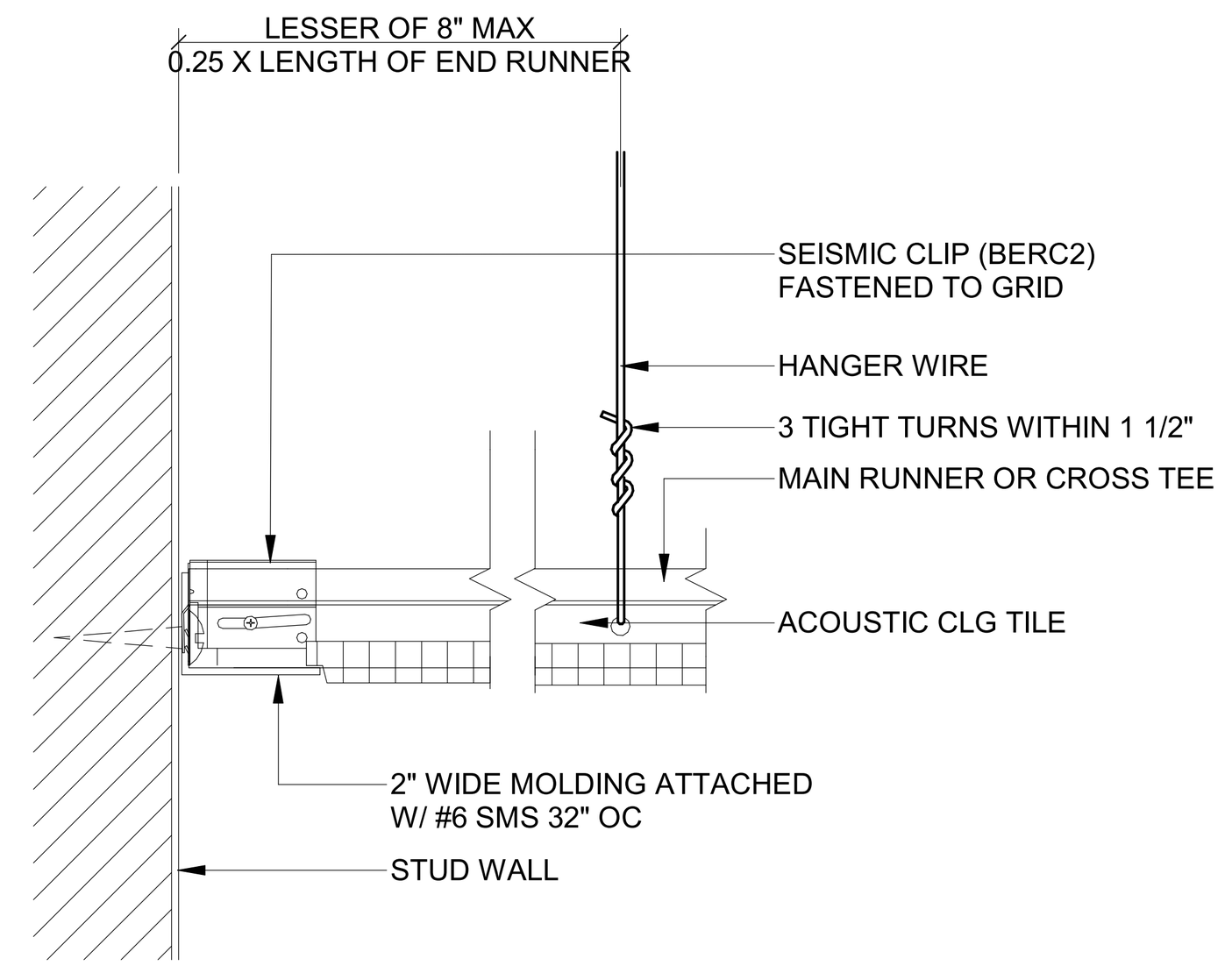


NOTES:

1. ATTACH ALL LIGHT FIXTURES TO THE CEILING GRID RUNNERS TO RESIST A HORIZONTAL FORCE EQUAL TO THE WEIGHT OF THE FIXTURES.
2. SUPPORT SURFACE MOUNTED LIGHT FIXTURES BY AT LEAST TWO POSITIVE DEVICES WHICH SURROUND THE CEILING RUNNER AND WHICH ARE EACH SUPPORTED FROM THE STRUCTURE ABOVE BY A 12 GA WIRE - SPRING CLIPS OR CLAMPS THAT CONNECT ONLY TO THE RUNNER ARE NOT ACCEPTABLE.
3. SUPPORT PENDANT MOUNTED LIGHT FIXTURES DIRECTLY FROM THE STRUCTURE ABOVE WITH HANGER WIRES OR CABLES PASSING THROUGH EACH PENDANT HANGER AND CAPABLE OF SUPPORTING 4 TIMES THE WEIGHT OF THE FIXTURE - SPECIAL DETAILS ARE NECESSARY FOR THIS CONDITION AT THE CEILING GRID.

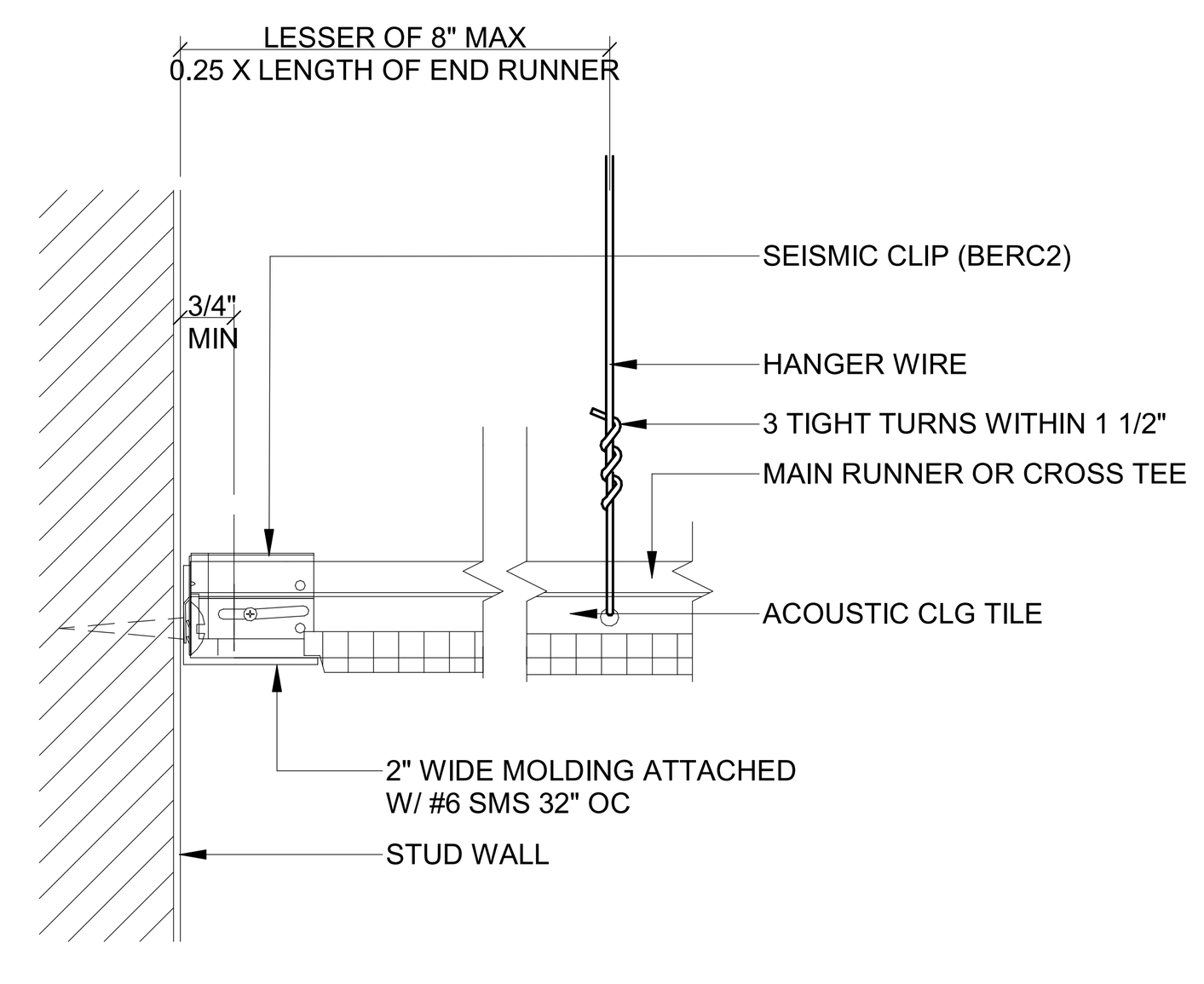
LIGHT FIXTURE TO T-BAR CLG — D1

1 1/2" = 1'-0"



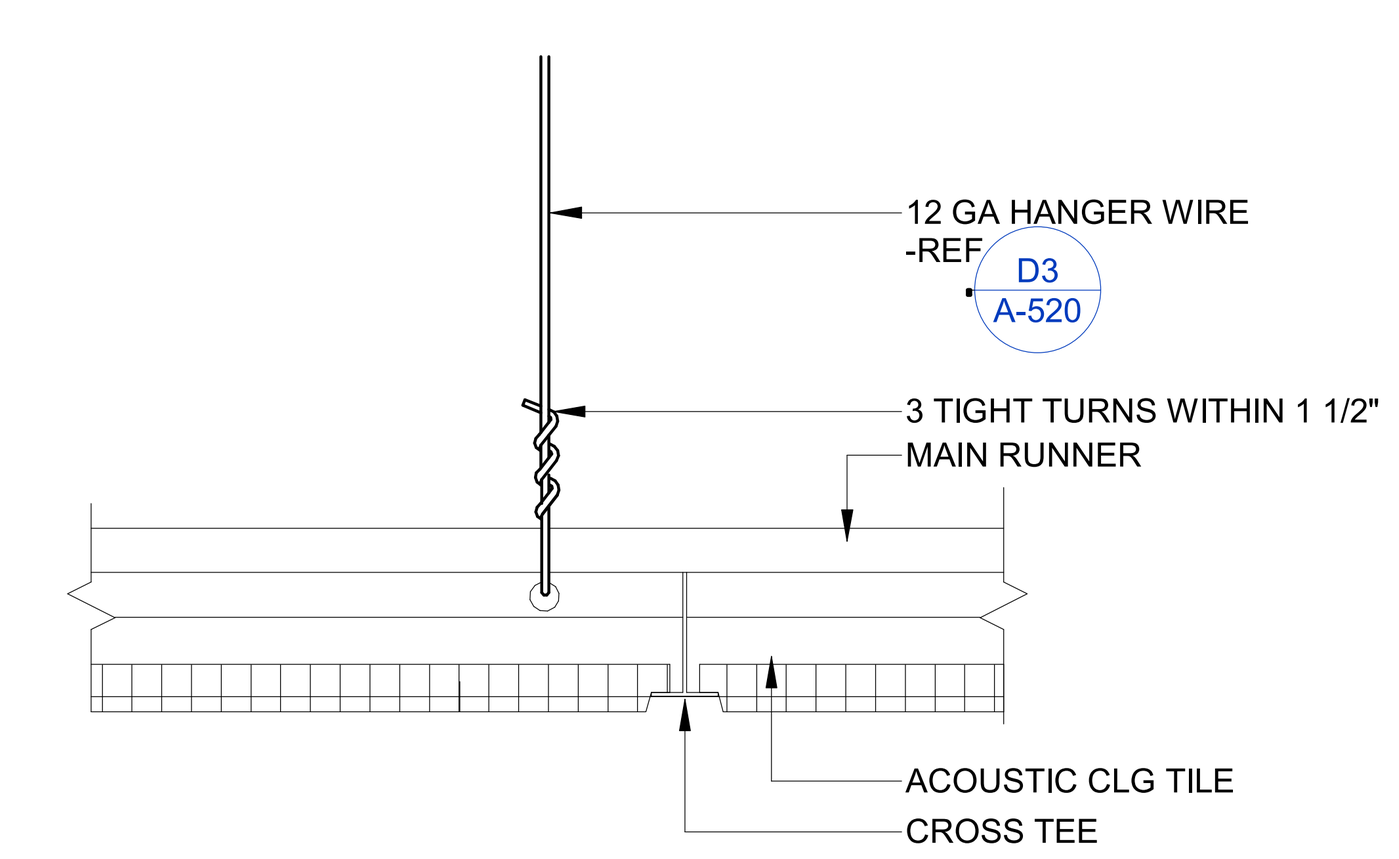
T-BAR GRID PERIMETER FIXED JOINT — C5

3" = 1'-0"



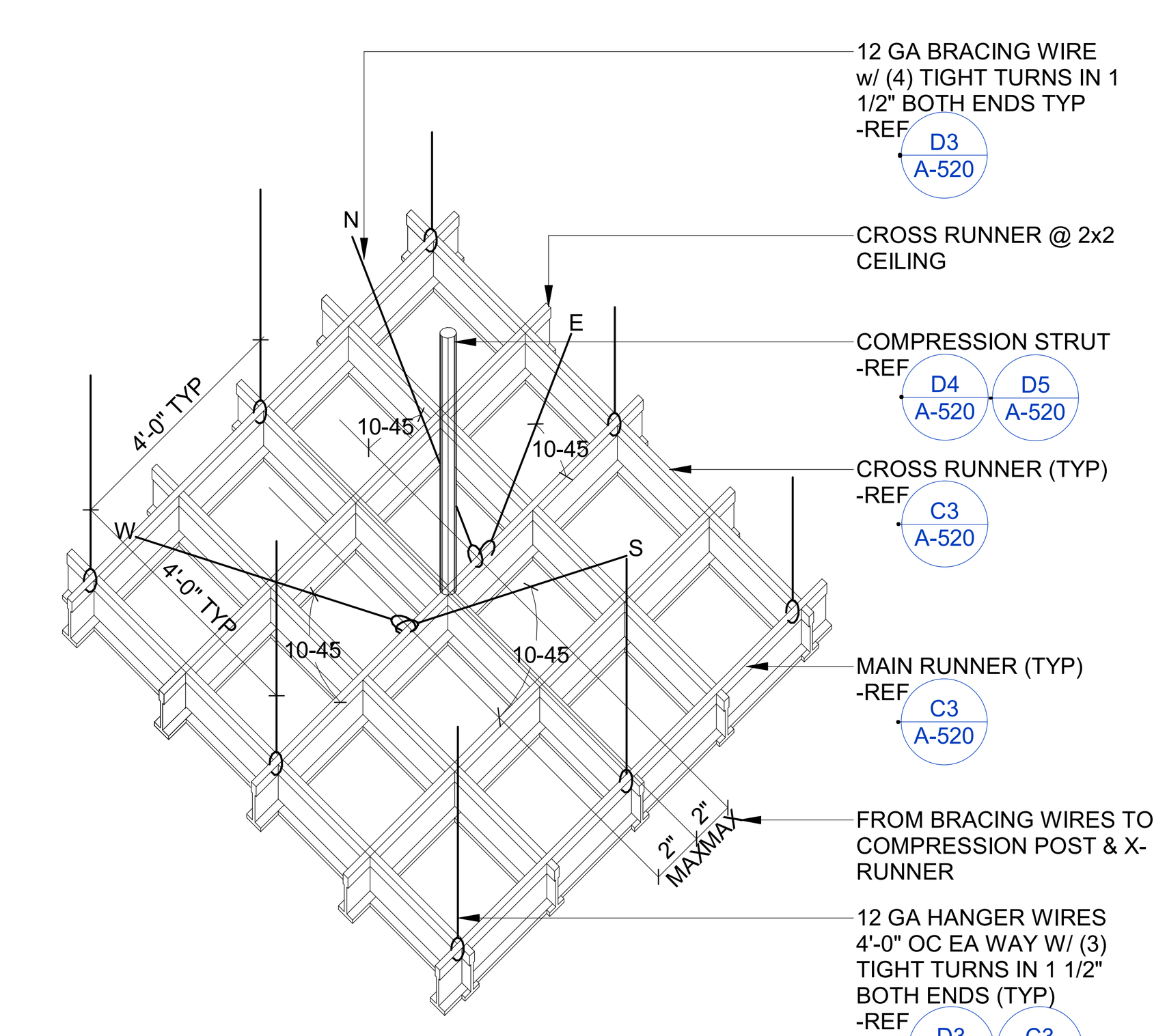
T-BAR GRID PERIMETER SLIP JOINT — C4

3" = 1'-0"



HANGER WIRE TO T-BAR CLG — C3

3" = 1'-0"



NOTES:

1. THE SUSPENDED CEILING FRAMING SYSTEM MUST BE INSTALLED IN ACCORDANCE WITH ICC ESR REPORT AND THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
2. COMPRESSION STRUTS: STEEL SECTION WITH L/R RATIO OF 200 MAX STARTING NOT MORE THAN 3'-0" FROM ADJACENT WALLS TO SUPPORT A TRIBUTARY AREA OF 96 SF MAX. ATTACH TO MAIN RUNNER WITHIN 2" OF CROSS RUNNER AS INDICATED HEREIN.
3. COMPRESSION STRUT SHALL NOT REPLACE HANGER WIRE.
4. REFERENCE SUSPENDED T-BAR GENERAL NOTES -REF A1 A-520

SUSPENDED T-BAR CEILING DIAGRAM — C1

3" = 1'-0"

g. ALL FIXTURES WEIGHING GREATER THAN 10 LB BUT LESS THAN OR EQUAL TO 56 LBS SHALL HAVE 2 -12 GAUGE SAFETY WIRES CONNECTED FROM FIXTURE HOUSING TO STRUCTURE ABOVE. IT IS NOT NECESSARY FOR THESE SAFETY WIRES TO BE TAUT.

h. ALL FIXTURES WEIGHING GREATER THAN 56 LBS SHALL BE SUPPORTED DIRECTLY FROM STRUCTURE ABOVE BY APPROVED HANGERS.

i. PENDANT-HUNG FIXTURES SHALL BE SUPPORTED DIRECTLY FROM THE STRUCTURE ABOVE USING NO LESS THAN 9 GAUGE WIRE OR AN APPROVED ALTERNATE SUPPORT. THE CEILING SUSPENSION SYSTEM SHALL NOT PROVIDE ANY DIRECT SUPPORT.

j. ALL RECESSED OR DROP-IN FIXTURES SHALL BE SUPPORTED DIRECTLY FROM FIXTURE HOUSING TO THE STRUCTURE ABOVE WITH A MINIMUM OF 2 - 12 GAUGE WIRES LOCATED AT DIAGONALLY OPPOSITE CORNERS. LEVELING OR POSITIONING OF FIXTURES MAY BE PROVIDED BY CEILING GRID. FIXTURE SUPPORT WIRES MAY BE SLIGHTLY LOOSE TO ALLOW THE FIXTURE TO SEAT IN THE GRID SYSTEM. FIXTURES SHALL NOT BE SUPPORTED FROM MAIN RUNNERS OR CROSS RUNNERS IF THE WEIGHT OF THE FIXTURES CAUSES TOTAL DEAD LOAD TO EXCEED THE DEFLECTION CAPABILITY OF THE CEILING SUSPENSION SYSTEM.

12. ADDITIONAL REQUIREMENTS

a. CEILINGS THAT ARE PART OF A FIRE RATED ASSEMBLY: PROVIDE A DETAIL AND DESIGN NUMBER FOR RATED CEILING ASSEMBLIES FROM AN APPROVED TESTING AGENCY. THE COMPONENTS AND INSTALLATION DETAILS CONFORM IN EVERY RESPECT WITH THE LISTED DETAIL AND NUMBER. DETAILS SHALL CLEARLY DEPICT ALL COMPONENTS, INCLUDING INSULATION MATERIALS, FRAMING AND ATTACHMENT OF THE DESIGN SO THAT THE ASSEMBLY CAN BE CONSTRUCTED AND INSPECTED ACCORDINGLY. POP RIVETS, SCREWS, OR OTHER ATTACHMENTS ARE NOT ACCEPTABLE UNLESS SPECIFICALLY DETAILED ON THE DRAWINGS AND APPROVED BY APPROVED TESTING AGENCY.

b. METAL AND OTHER PANELS: METAL PANELS AND PANELS WEIGHING MORE THAN 1/2 PSF, OTHER THAN MINERAL FIBER ACOUSTICAL TILE, ARE TO BE POSITIVELY ATTACHED TO THE CEILING SUSPENSION RUNNERS.

c. BUILDING EXIT WAYS: CEILINGS IN EXIT WAYS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 13.5.6.2.2(1) OF ASCE 7-10 AS AMENDED BY 2025 CBC SECTION 1616A.1.20. SPLICES OR INTERSECTION OF RUNNERS SHALL BE ATTACHED WITH THROUGH CONNECTORS SUCH AS POP RIVETS, SCREWS, PINS, PLATES WITH END TABS OR OTHER APPROVED CONNECTORS.

EXPANSION ANCHORS INSTALLED IN CONCRETE OVER METAL DECK OR CONC SLAB

1. ALLOWABLE STRENGTHS SHALL BE COMPARED TO ALLOWABLE STRESS DESIGN (ASD) LEVEL DEMAND IN ACCORDANCE WITH THE 2025 CBC SECTION 1605A.3.1.
2. ALLOWABLE STRENGTHS ARE FOR SINGLE ANCHORS WHICH MEET MIN. REQUIREMENTS IN ACCORDANCE WITH THE TABLE & SECTION BELOW.
3. MINIMUM CONCRETE STRENGTH f'c=3000 PSI.
4. EXPANSION ANCHORS INSTALLED THROUGH UPPER OR LOWER FLUTES OF METAL DECK SHALL MEET THE REQUIREMENTS OF THE INSTALLATION CRITERIA AND SECTION BELOW.
5. STEEL DECK TO BE MIN. 20 GA. W-DECK.
6. MINIMUM CONCRETE FILL DEPTH ABOVE THE TOP OF METAL DECK IN ACCORDANCE WITH THE SECTION AND INSTALLATION CRITERIA BELOW.
7. EXPANSION ANCHORS SHALL NOT BE USED IN PRE-STRESSED CONCRETE UNLESS NON-DESTRUCTIVE TESTING METHODS ARE USED TO LOCATE STRAND & REINFORCING PRIOR TO ANCHOR INSTALLATION.
8. EXPANSION ANCHOR INSTALLATION SHALL NOT NICK OR DAMAGE EXISTING REINFORCEMENT. SHOULD THIS OCCUR THE ARCHITECT RESPONSIBLE CHARGE SHALL BE NOTIFIED IMMEDIATELY. EXPANSION ANCHORS SHALL BE INSTALLED 1" CLEAR OF EXISTING REINFORCEMENT.
9. EXPANSION ANCHORS SHALL BE INSTALLED PER CURRENT ICC-ES EVALUATION REPORT OR REPORT FROM OTHER TESTING AGENCY ACCEPTABLE TO AHJ.
10. TESTING OF EXPANSION ANCHORS SHALL BE IN ACCORDANCE WITH 2025 CBC SECTION 1913A.7.
11. EXPANSION ANCHORS SHALL BE INSTALLED TO COMPLY WITH THE MINIMUM SLAB THICKNESS REQUIREMENTS ESTABLISHED BY THE ICC-ESR FOR THE SPECIFIED ANCHOR.
12. ALL VALUES IN TABLES ARE FOR CRACKED CONCRETE & INCLUDE REDUCTION BASED ON ACI 318-11 SECTION D.3.3.4.4 REQUIREMENTS. THE ALLOWABLE STRENGTHS ARE BASED UPON THE LEAST OF THE ALLOWABLE STRENGTHS CALCULATED USING THE ICC ESRS 1917, 2427, 2502 & 3037 AND USING AN ALLOWABLE STRENGTH CONVERSION FACTOR OF 1.4.
13. ALL VALUES IN THE TABLE REFLECT ALLOWABLE STRENGTHS WITH 20% STRESS INCREASE FOR LOAD COMBINATIONS WITH OVER STRENGTH FACTOR IN ACCORDANCE WITH ASCE 7-10 SECTION 12.4.3.3.

EXPANSION ANCHORS INSTALLATION CRITERIA

	NOMINAL ANCHOR DIAMETER (IN)				
	3/8	1/2		5/8	
EFFECTIVE MIN EMBEDMENT (IN)	2	2 1/4	3 1/4	3 1/8	4
MIN MEMBER THICKNESS NWC SLAB OR BEAM ONLY (IN)	4.5	4.5	6	6	7 1/4
MIN ANCHOR SPACING (3 x EMBED) (IN)	6 3/4	6 3/4	9 3/4	9 3/8	12
MIN EDGE DISTANCE (IN)	6	7	7 1/2	6 1/2	8 3/4

EXPANSION ANCHOR ALLOWABLE STRENGTHS FOR NORMAL WEIGHT CONCRETE (f' MIN=3000 PSI)

ANCHOR DIA (IN)	EMBED (IN)	SHEAR (LB)	TENSION (LB)
3/8	2	1020	961
1/2	2 1/4	1580	1101
1/2	3 1/4	2591	2003
5/8	3 1/4	2579	2150
5/8	4 1/4	3772	3113

EXPANSION ANCHOR GENERAL NOTES — B3

6" = 1'-0"

POWER ACTUATED FASTENER (PAF) INSTALLED IN CONCRETE OVER METAL DECK OR CONC SLAB

1. POWER ACTUATED FASTENER (PAF), POWDER DRIVEN FASTENERS (PDF), POWER DRIVEN PINS (PDP), SHOT PINS ALL REPRESENT THE SAME FASTENER AND WILL HEREAFTER BE REFERRED TO AS POWER ACTUATED FASTENERS (PAF).
2. ALLOWABLE STRENGTHS SHALL BE COMPARED TO ALLOWABLE STRESS DESIGN (ASD) LEVEL DEMAND IN ACCORDANCE WITH THE 2025 CBC SECTION 1605A.3.1.
3. ALLOWABLE STRENGTHS ARE FOR A SINGLE FASTENER WHICH MEET REQUIREMENTS IN SECTIONS BELOW. THE ALLOWABLE STRENGTHS ARE BASED UPON THE LEAST OF THE ALLOWABLE STRENGTHS LISTED IN THE ICC ESRS 1799, 2024, 2138 & 2269.
4. MINIMUM CONCRETE STRENGTH f' =2000 PSI FOR NORMAL WEIGHT CONCRETE AND f' =3000 PSI FOR ALL LIGHT WEIGHT CONCRETE UNLESS OTHERWISE NOTED.
5. POWER ACTUATED FASTENER INSTALLED THROUGH LOW FLUTES OF THE METAL DECK SHALL MEET THE REQUIREMENTS OF THE INSTALLATION CRITERIA AND SECTIONS BELOW.
6. MINIMUM EDGE DISTANCE OF 1 1/8" FROM THE EDGE OF METAL DECK WEB AND 4" FROM THE EDGE OF THE DECK.
7. STEEL DECK SHALL BE A MINIMUM OF 20GA.
8. CONCRETE FILL DEPTH ABOVE THE TOP OF METAL DECK SHALL BE A MINIMUM OF 3 1/4" LIGHT WEIGHT CONCRETE.
9. PAF SHALL NOT BE USED TO RESIST SEISMIC SHEAR FORCES EXCEPT AT INTERIOR NON-LOAD BEARING, NON-SHEAR WALL PARTITION WALLS (AS PERMITTED BY 2025 CBC SECTION 1908A.1.1) AND COMPONENTS EXEMPT FROM CONSTRUCTION DOCUMENT REVIEW BY 2025 CBC SECTION 1616A.1.18 (NOT PERMITTED TO TAKE SEISMIC SHEAR BY ICC-ES AC70 FOR ANY OTHER CONDITIONS). PAF SHALL NOT BE USED TO CARRY SEISMIC TENSION LOADS (EXCEPT FOR VERTICAL SEISMIC LOAD PRODUCED BY SELF WEIGHT OF THE COMPONENTS) OR IN CRACKED CONCRETE UNLESS APPROVED FOR SUCH LOADING BY AHJ.
10. PAF SHALL NOT BE USED IN PRE-STRESSED CONCRETE UNLESS NON-DESTRUCTIVE TESTING METHODS ARE USED TO LOCATE STRAND AND REINFORCEMENT PRIOR TO FASTENER INSTALLATION.
11. PAF INSTALLATION SHALL NOT NICK OR DAMAGE EXISTING CONCRETE REINFORCEMENT. SHOULD THIS OCCUR THE ARCHITECT IN RESPONSIBLE CHARGE SHALL BE NOTIFIED IMMEDIATELY. PAF SHALL BE INSTALLED 1" CLEAR OF EXISTING REINFORCEMENT. THIS MAY REQUIRE NON-DESTRUCTIVE TESTING.
12. PAF SHALL BE INSTALLED PER CURRENT ICC-ES EVALUATION REPORTS.
13. TESTING OF PAF SHALL BE IN ACCORDANCE WITH 2025 CBC SECTION 1913A.7. MINIMUM CONCRETE SUBSTRATE THICKNESS SHALL BE THREE TIMES THE PAF PENETRATION INTO THE CONCRETE SUBSTRATE.
14. TESTING IS NOT REQUIRED OF PAF USED TO ATTACH TRACKS OF INTERIOR NON-SHEAR WALL PARTITIONS FOR SHEAR ONLY WHERE THERE ARE AT LEAST THREE FASTENERS.
15. TOTAL ALLOWABLE LOADS IN TENSION, SHEAR OR TENSION SHEAR COMBINATIONS SHALL NOT EXCEED 90 LBS AS PERMITTED BY EXCEPTION TO ASCE 7-10 SECTION 13.4.5.

POWER ACTUATED FASTENER INSTALLED INTO NORMAL-WEIGHT CONCRETE (f'c MIN=2000 PSI)

NOMINAL SHANK DIAMETER (IN)	MIN EMBED (IN)	MIN SPACING (IN)	MIN EDGE DISTANCE (IN)	TENSION (LB) (SEE NOTE 15)	SHEAR (LB) (SEE NOTE 15)
0.145 MIN	1 1/4	5.1	4	90	90

POWER ACTUATED FASTENER (PAF) — B1

6" = 1'-0"

1. GALVANIZED METAL STUDS, TRACKS AND SHEET STEEL SHALL CONFORM TO ASTM A653-11 MATERIAL, OR OTHER EQUIVALENT ASTM LISTED MATERIALS IN SECTION A2.1 OF THE AISI SI00-07/S2-10; NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS WITH SUPPLEMENT 2, DATED 2010, WITH A MINIMUM YIELD STRENGTH OF 33 KSI FOR 43 MIL (18 GAUGE) AND LIGHTER AND MINIMUM YIELD STRENGTH OF 50 KSI FOR HEAVIER GAUGES. METAL STUDS AND TRACKS SHALL BE OF SIZE, THICKNESS AND SECTION PROPERTIES SHOWN ON TABLES 1-1, 1-2 AND 1-3 OF THE AISI MANUAL, COLD-FORMED STEEL DESIGN, 2008 EDITION. THE RDP IN RESPONSIBLE CHARGE SHALL OBTAIN APPROVAL FROM THE AUTHORITY HAVING JURISDICTION (AHJ) FOR ANY SUBSTITUTIONS.
2. THE FOLLOWING REQUIREMENTS SHALL BE MET
   a. SHEET METAL SCREWS SHALL COMPLY WITH ASTM C 1513-10, ASME B18.6.4-98 (R2005) AND ICC-ES AC 118. PENETRATION OF SCREWS THROUGH JOINED MATERIAL SHALL NOT BE LESS THAN THREE EXPOSED THREADS.
   b. WELDING SHALL BE IN ACCORDANCE WITH AWS D1.3 USING E60XX SERIES ELECTRODES. FIELD WELDING SHALL HAVE SPECIAL INSPECTION IN ACCORDANCE WITH 2025 CBC SECTION 1705A.2.
   c. POST- INSTALLED ANCHORS (EXPANSION ANCHORS, SCREW ANCHORS AND POWER ACTUATED FASTENERS) SHALL HAVE SPECIAL INSPECTION AND TESTING IN ACCORDANCE WITH THE 2025 CBC SECTIONS 1705A.3 & 1913A.7. FOR QUALIFICATION, DESIGN AND USE OF POST-INSTALLED ANCHORS IN CONCRETE SEE 2025 CBC SECTIONS 1616A.1.19 AND 1908A.1.1. LISTING OF CURRENT ICC-ES EVALUATION REPORTS (OR REPORTS FROM OTHER TESTING AGENCIES ACCEPTABLE TO AHJ) SHALL BE REQUIRED FOR FASTENER USED.
   d. POWER-ACTUATED FASTENERS (PAF), POWDER DRIVEN FASTENERS (PDF), POWER DRIVEN PINS (PDP) AND SHOT PINS ALL REPRESENT THE SAME FASTENER AND WILL HEREAFTER BE REFERRED TO AS POWER ACTUATED FASTENERS (PAF). PAF'S SHALL SATISFY THE CURRENT AC70 -ACCEPTANCE CRITERIA FOR FASTENERS POWER-DRIVEN INTO CONCRETE, STEEL AND MASONRY ELEMENTS AND THE 2025 CBC SECTION 1908A.1.1. LISTING OF CURRENT ICC ES EVALUATION REPORTS SHALL BE REQUIRED FOR FASTENERS USED.
   e. FOR PAF INSTALLED IN STEEL THE FASTENER PENETRATION SHALL HAVE THE ENTIRE POINTED END OF THE FASTENER DRIVEN THROUGH THE STEEL MEMBER, EXCEPT AS NOTED IN CURRENT REPORTS FROM TESTING AGENCIES ACCEPTABLE TO THE AHJ.
3. DESIGN CRITERIA
   a. BUILDING CODE: 2025 CALIFORNIA BUILDING CODE (2025 CBC), ASCE 7-10, AISI S100-07/S2-10, ASTM E580-14, C635-13a, AND C636-13. FOR LOAD COMBINATIONS, ALLOWABLE STRESS DESIGN SHALL BE IN ACCORDANCE WITH 2025 CBC SECTION 1605A.3.1.
   b. FASTENER CAPACITIES TABLES WERE DEVELOPED BASED ON ICC REPORTS BY SEVERAL MANUFACTURERS.
   c. THE DESIGN ASSUMES THAT BUILDING ELEMENTS AND SUPPORTS, TO WHICH THE COMPONENTS ADDRESSED IN THIS DOCUMENT ARE ANCHORED, HAVE SUFFICIENT CAPACITY TO CARRY THE LOADS IMPOSED BY THE COMPONENTS IN COMBINATION WITH ALL OTHER LOADS. EVALUATION OF THE CAPACITY OF THESE SUPPORTING BUILDING ELEMENTS IS BEYOND THE SCOPE OF THE OPD.
   d. THIS DESIGN IS LIMITED TO CEILING ASSEMBLIES HAVING MAXIMUM DEAD WEIGHT OF 4 PSF, INCLUDING LIGHTING FIXTURES (LUMINARIES) AND MECHANICAL SERVICES, EACH WEIGHING LESS THAN 56 LBS AND ATTACHED TO CEILING FRAMING SYSTEM. HEAVIER SYSTEM AND THOSE SUPPORTING LATERAL FORCES FROM PARTITION WALLS ARE OUTSIDE THE SCOPE OF THIS PROJECT AND WILL REQUIRE PROJECT SPECIFIC DESIGN.
4. THE RDP IN RESPONSIBLE CHARGE SHALL VERIFY THE FIRE RESISTANCE AND ACOUSTICAL RATINGS FOR ALL CEILING ASSEMBLIES.
5. "CEILING WIRE" SHALL CONFORM WITH GALVANIZED SOFT ANNEALED MILD STEEL WIRE AS DEFINED IN ASTM A641 (CLASS 1 COATING) WITH 70 KSI MINIMUM TENSILE STRENGTH:
   a. FOUR (4) TWISTS OF WIRE WITHIN 1.5" DEVELOPS THE ALLOWABLE LOAD FOR THE WIRE.
   b. THREE (3) TWISTS WITHIN 3" MAY BE USED TO DEVELOP THE MAXIMUM 50% OF ALLOWABLE LOAD.
6. SUSPENSION SYSTEM COMPONENTS SHALL COMPLY WITH ASTM C635 AND E580 SECTION 5.1:
   a. THE CEILING GRID SYSTEM SHALL BE RATED HEAVY DUTY AS DEFINED BY ASTM C635.
   b. HANGER AND BRACING WIRES SHALL BE #12 GAUGE (0.106" DIAMETER), SOFT ANNEALED, AND GALVANIZED STEEL WIRES WITH CLASS 1 COATING. THEY MAY BE USED FOR UP TO AND INCLUDING 4'-0"x 4'-0" GRID SPACING ALONG AND ATTACHED TO MAIN RUNNERS. SPLICES ARE NOT PERMITTED IN ANY HANGER WIRE.
   c. MAIN RUNNERS AND CROSS RUNNERS ALONG WITH THEIR SPLICES, INTERSECTION CONNECTORS, AND EXPANSION DEVICES SHALL BE DESIGNED AND CONSTRUCTED TO CARRY A MEAN ULTIMATE TEST LOAD OF NOT LESS THAN 180 LBS IN COMPRESSION & TENSION, IN ACCORDANCE WITH ASTM 580 SECTION 5.1.2.
7. SUSPENSION SYSTEM INSTALLATION, SHALL COMPLY WITH ASTM C636 AND E580 SECTION 5.2:
   a. PROVIDE #12 GAGE HANGER WIRES AT THE ENDS OF ALL MAIN AND CROSS RUNNERS WITHIN 8 INCHES OF THE SUPPORT OR WITHIN ONE-FOURTH (1/4) OF THE LENGTH OF THE END TEE, WHICHEVER IS LESS, FOR THE PERIMETER OF THE CEILING AREA. PERIMETER WIRES ARE NOT REQUIRED WHEN THE LENGTH OF THE END TEE IS 8 INCHES OR LESS.
   b. CEILING GRID MEMBERS SHALL BE ATTACHED TO TWO (2) ADJACENT WALLS, IN ACCORDANCE WITH ASTM E580 SECTION 5.2.3. CEILING GRID MEMBERS SHALL BE AT LEAST 3/4" INCH CLEAR OF OTHER WALLS. IF WALLS RUN DIAGONAL TO THE CEILING GRID SYSTEM RUNNERS, ONE END OF MAIN AND CROSS RUNNERS SHOULD BE FREE, AND A MINIMUM OF 3/4 INCH CLEAR OF WALL.
   c. THE WIDTH OF THE PERIMETER SUPPORTING CLOSURE ANGLE SHALL BE NOT LESS THAN 2 INCHES. USE OF ANGLES WITH SMALLER WIDTHS IN CONJUNCTION WITH PERIMETER CLIPS SHALL REQUIRE AN ALTERNATE METHOD OF COMPLIANCE WITH ADEQUATE JUSTIFICATION AND ARE OUTSIDE THE SCOPE OF THIS OPD.
   d. AT THE PERIMETER OF THE CEILING AREA WHERE MAIN OR CROSS RUNNERS ARE NOT CONNECTED TO THE ADJACENT WALL, PROVIDE INTERCONNECTION BETWEEN THE RUNNERS AT THE FREE END TO PREVENT LATERAL SPREADING. A METAL STRUT OR A #16 GAUGE WIRE WITH A POSITIVE MECHANICAL CONNECTION TO RUNNER MAY BE USED. WHERE THE PERPENDICULAR DISTANCE FROM THE WALL TO THE FIRST PARALLEL RUNNER IS 8 INCHES OR LESS, THIS INTERCONNECTION IS NOT REQUIRED.
8. EXPANSION JOINTS, SEISMIC SEPARATIONS, AND PENETRATIONS
   a. EXPANSION JOINTS SHALL BE PROVIDED IN THE CEILING AT INTERSECTIONS OF CORRIDORS AND AT JUNCTIONS OF CORRIDORS WITH LOBBIES OR OTHER SIMILAR AREAS.
   b. FOR CEILING AREAS EXCEEDING 2500 SQUARE FEET, A SEISMIC SEPARATION JOINT SHALL BE PROVIDED TO DIVIDE THE CEILING INTO AREAS NOT EXCEEDING 2500 SQ. FT.
   c. PENETRATIONS THROUGH THE CEILING FOR SPRINKLER HEADS AND OTHER SIMILAR DEVICES THAT ARE NOT INTEGRALLY TIED TO THE CEILING SYSTEM IN THE LATERAL DIRECTION SHALL HAVE A 2 INCH OVERSIZED RING, SLEEVE OR ADAPTER THROUGH THE CEILING TILE TO ALLOW FREE MOVEMENT OF 1 INCH IN ALL HORIZONTAL DIRECTIONS. A FLEXIBLE SPRINKLER HOSE FITTING THAT CAN ACCOMMODATE 1 INCH OF CEILING MOVEMENT SHALL BE PERMITTED TO BE USED IN LIEU OF THE OVERSIZED RING, SLEEVE OR ADAPTER. SUCH FLEXIBLE SPRINKLER HOSE SHALL BE ADEQUATELY SUPPORTED FROM SOFFIT SO AS NOT TO EXCEED THE MAXIMUM TRIBUTARY WEIGHT OF THE CEILING.
9. LATERAL FORCE BRACING: LATERAL FORCE BRACING IS REQUIRED IN ACCORDANCE WITH THIS SECTION FOR ALL CEILING AREAS, UON. EXCEPTION: LATERAL FORCE BRACING MAY BE OMITTED FOR SUSPENDED ACOUSTICAL CEILING SYSTEMS WITH A CEILING AREA OF 144 SQ. FT. OR LESS, WHEN PERIMETER SUPPORT IN ACCORDANCE WITH ASTM E580 ARE PROVIDED AND PERIMETER WALLS ARE DESIGNED TO CARRY THE CEILING LATERAL FORCES.
   a. PROVIDE LATERAL-FORCE BRACING ASSEMBLIES CONSISTING OF A STRUT AND 4 - #12 GAUGE BRACING WIRES ORIENTED 90 DEGREES FROM EACH OTHER.
   b. LATERAL-FORCE BRACING ASSEMBLIES SHALL BE SPACED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
   c. THE SLOPE OF BRACING WIRES MAY BE FROM 10 TO 45 DEGREES BUT MAY NOT EXCEED 45 DEGREES FROM THE PLANE OF THE CEILING AND WIRES SHALL BE TAUT.
   d. STRUTS SHALL BE ADEQUATE TO RESIST THE VERTICAL COMPONENT INDUCED BY THE BRACING WIRES, AND SHALL NOT BE MORE THAN 1 (HORIZONTAL) IN 6 (VERTICAL) OUT OF PLUMB.
10. ATTACHMENT OF HANGER AND BRACING WIRES:
   a. FASTEN #12 HANGER WIRES WITH NOT LESS THAN THREE (3) TIGHT TURNS IN 3 INCHES. HANGER WIRE LOOPS SHALL BE TIGHTLY WRAPPED AND SHARPLY BENT TO PREVENT ANY VERTICAL MOVEMENT OR ROTATION OF THE MEMBER WITHIN THE LOOPS.
   b. FASTEN #12 BRACING WIRES WITH FOUR (4) TIGHT TURNS. MAKE ALL TIGHT TURNS WITHIN A DISTANCE OF 1 1/2 INCHES.
   c. HANGER OR BRACING WIRE ANCHORED TO THE STRUCTURE SHOULD BE INSTALLED IN SUCH A MANNER THAT THE DIRECTION OF THE ANCHOR ALIGNS AS CLOSELY AS POSSIBLE WITH THE DIRECTION OF THE WIRE.
   d. SEPARATE ALL CEILING HANGER AND BRACING WIRES AT LEAST 6 INCHES FROM ALL UNBRACED DUCTS, PIPES CONDUITS, ETC.
   e. HANGER WIRES SHALL NOT BE ATTACHED TO OR BEND AROUND INTERFERING MATERIAL OR EQUIPMENT. PROVIDE TRAPEZE OR OTHER SUPPLEMENTARY SUPPORT MEMBERS AT OBSTRUCTIONS TO TYPICAL HANGER SPACING. PROVIDE ADDITIONAL HANGERS, STRUTS OR BRACES AS REQUIRED AT ALL CEILING BREAKS, SOFFITS, OR DISCONTINUOUS AREAS.
   f. HANGER WIRES THAT ARE MORE THAN 1 (HORIZONTAL) IN 6 (VERTICAL) OUT OF PLUMB SHALL REQUIRE PROJECT SPECIFIC DESIGN.
   g. WHEN DRILLED-IN CONCRETE ANCHORS OR PAF ARE USED IN REINFORCED CONCRETE FOR HANGER WIRES, 1 OUT OF 10 WIRE/ ANCHOR ASSEMBLIES SHALL BE FIELD TESTED FOR 200 LBS IN TENSION. WHEN DRILLED-IN CONCRETE ANCHORS ARE USED FOR BRACING WIRES, 1 OUT OF 2 WIRE/ANCHOR ASSEMBLIES SHALL BE FIELD TESTED FOR 440 LBS IN TENSION IN THE DIRECTION OF THE WIRE. PAF IN CONCRETE ARE NOT PERMITTED FOR BRACING WIRES.
11. CEILING FIXTURES, TERMINALS, AND DEVICES
   a. CEILING PANELS SHALL NOT SUPPORT ANY LIGHT FIXTURES, AIR TERMINALS/GRILLS, OR OTHER DEVICES (REFERRED TO ALL BY COMMON TERM FIXTURES HERE AFTER).
   b. ALL FIXTURES SHALL BE MOUNTED IN A MANNER THAT WILL NOT COMPROMISE CEILING PERFORMANCE.
   c. ALL FIXTURES SHALL BE ATTACHED TO THE SUSPENDED CEILING SYSTEM BY MECHANICAL MEANS, UNLESS INDEPENDENTLY SUPPORTED. THE ATTACHMENT DEVICE SHALL HAVE THE CAPACITY OF 100% OF FIXTURE WEIGHT ACTING IN ANY DIRECTION. A MINIMUM OF TWO ATTACHMENT DEVICES ARE REQUIRED FOR EACH FIXTURE.
   d. SURFACE MOUNTED FIXTURES SHALL BE ATTACHED TO THE MAIN RUNNER WITH POSITIVE CLAMPING DEVICES MADE OF MATERIAL WITH A MINIMUM 14 GAUGE. 12 GAUGE SAFETY WIRES SHALL BE ATTACHED BETWEEN THE CLAMPING DEVICE AND TO THE STRUCTURE ABOVE. IN NO CASE SHALL THE FIXTURES EXCEED THE DESIGN CAPACITY OF THE SUPPORTING MEMBERS.
   e. ALL LIGHT FIXTURES WEIGHING LESS THAN OR EQUAL TO 10 LB. SHALL HAVE ONE 12 GAUGE SAFETY WIRE CONNECTED FROM FIXTURE HOUSING TO STRUCTURE ABOVE. IT IS NOT NECESSARY FOR THESE SAFETY WIRES TO BE TAUT.
   f. ALL FIXTURES WEIGHING GREATER THAN 10 LB BUT LESS THAN OR EQUAL TO 56 LBS SHALL HAVE 2 -12 GAUGE SAFETY WIRES CONNECTED FROM FIXTURE HOUSING TO STRUCTURE ABOVE. IT IS NOT NECESSARY FOR THESE SAFETY WIRES TO BE TAUT.

SUSPENDED T-BAR CLG GENERAL NOTES — A1

6" = 1'-0"

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE 10/07/2026

PROJECT # 026.0084.00

DESIGN PROFESSIONAL

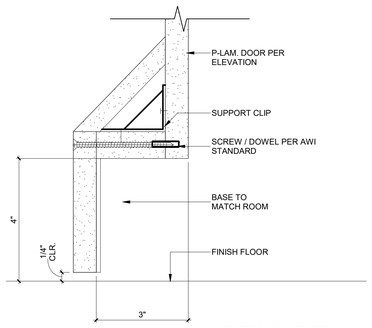
LICENSED ARCHITECT JASON A. PONTIUS NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

CEILING DETAILS

SHEET #

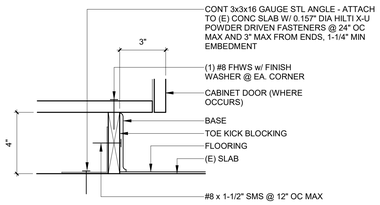
A-520



NOTE: PRE-FABRICATED TOE KICK ASSEMBLIES ARE ACCEPTABLE IF ALL DIMENSIONS AND CLEARANCE SHOWN IS THIS DETAIL ARE MET.

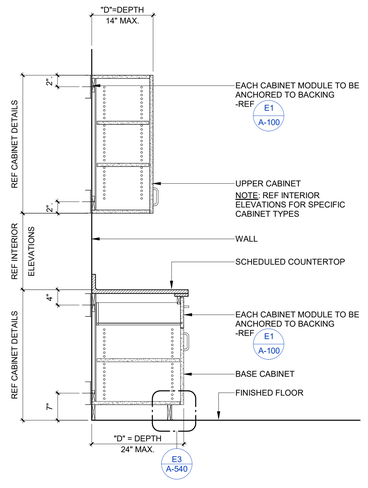
INTEGRAL TOE KICK | E4

6" = 1'-0"



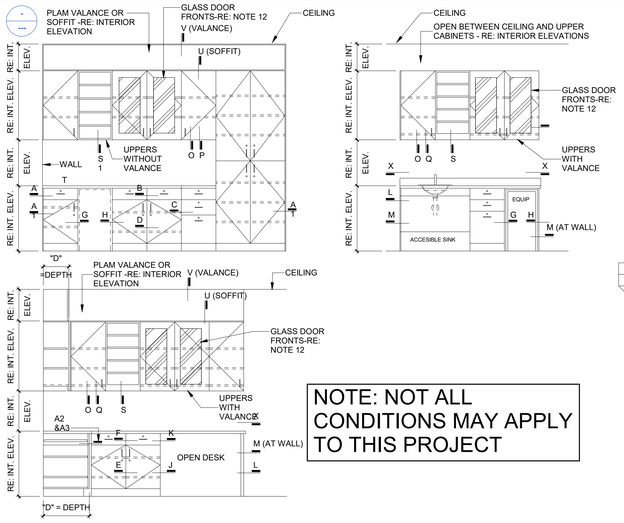
BASE CABINET FLOOR CONNECTION | E3

3" = 1'-0"



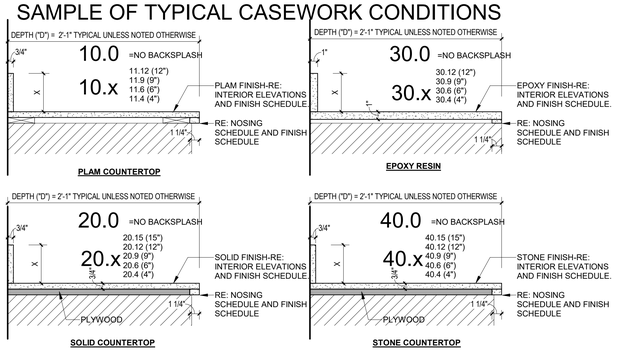
TYP BASED W/ UPPER CABINET ANCHORAGE | E1

3/4" = 1'-0"

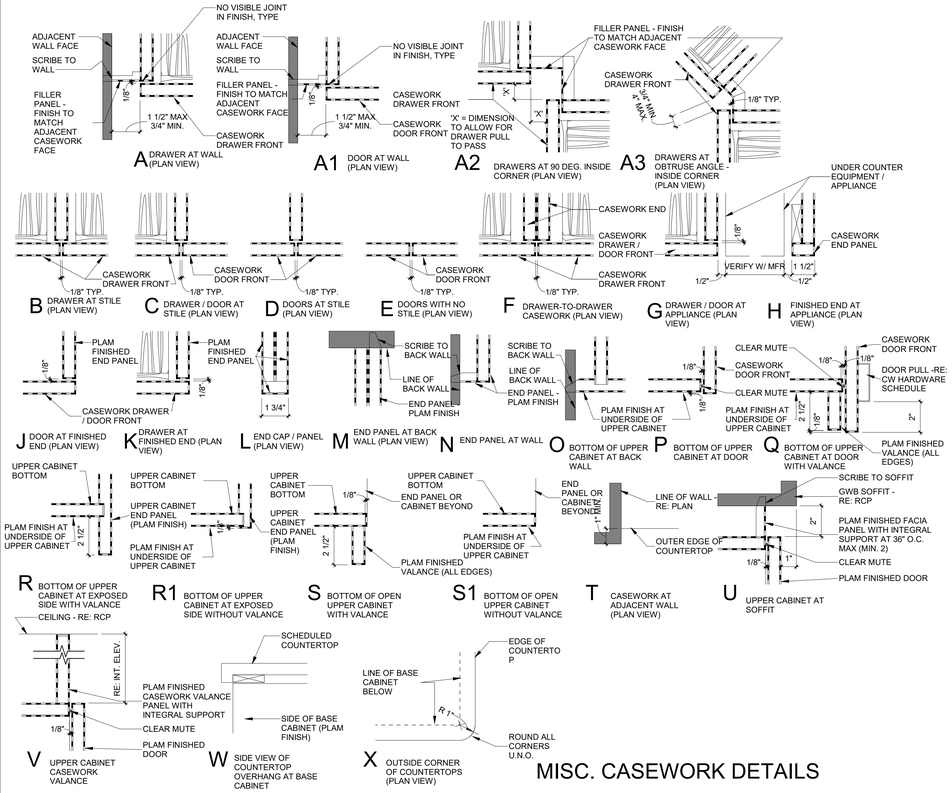


NOTE: NOT ALL CONDITIONS MAY APPLY TO THIS PROJECT

SAMPLE OF TYPICAL CASEWORK CONDITIONS



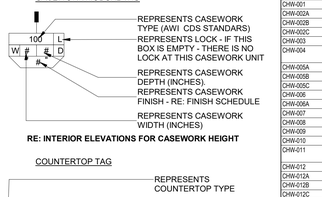
COUNTERTOP TYPE INDEX



MISC. CASEWORK DETAILS

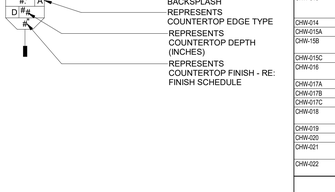
CASEWORK TAGS

CASEWORK MODUAL TAG



RE: INTERIOR ELEVATIONS FOR CASEWORK HEIGHT

COUNTERTOP TAG

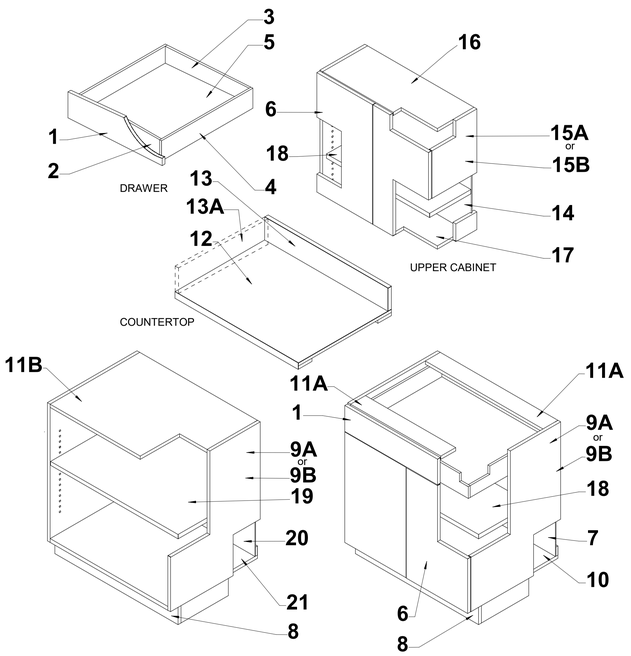


06 41 16 CASEWORK HARDWARE SCHEDULE (CHW-#)

HARDWARE NUMBER	PART	MAMUFACTURER	MODEL NUMBER	FINISH	COMMENT
CHW-001	PULLS	DOUG MOCKET	DP55A - 6-5/16" ROD DRAWER PULL	SATIN STAINLESS STEEL	DRAWER AND DOOR PULLS
CHW-002A	HINGES - HEAVY DUTY	BLUM	170 SERIES -NO. B9190S5	NICKEL PLATED STEEL	FULL OVERLAY, SELF CLOSING, 170-DEGREE OPENING
CHW-002B	HINGES - STANDARD	BLUM	100 SERIES -NO. B9190S5	NICKEL PLATED STEEL	FULL OVERLAY, SELF CLOSING, 100-DEGREE OPENING
CHW-002C	HINGES - ROLL OUT	BLUM	CLIP TOP 155-DEGREE	NICKEL PLATED STEEL	ZERO PROTRUSION HINGES FOR INTERIOR ROLL-OUT USE
CHW-003	LOCK	HAFELE	235.10.400	BRUSHED NICKEL	MILLWORK KEYED DOOR (CAM) LOCK - VERIFY ALL KEYING REQUIREMENTS WITH TENANT/OWNER
CHW-004	SHELF SUPPORT CLIP	E.B. BRADLEY	ENGSTROM EARTHQUACK PROOF SHELF CLIP	CLEAR NYLON	32MM SYSTEM
CHW-005A	DRAWER SLIDES - BOX DRAWER	KNPE & VOGT	SERIES 8400	WHITE	100 LBF DRAWER SLIDES
CHW-005B	DRAWER SLIDES - LATERAL FILE DRAWER	ACCURIDE	AC 3640	WHITE	200 LBF DRAWER SLIDES (HEAVY DUTY)
CHW-005C	DRAWER SLIDES - PENCIL DRAWER	ACCURIDE	AC 2006	WHITE	45 LBF (3/4 EXTENSION) DRAWER SLIDES (HEAVY DUTY)
CHW-006	COAT ROD	HAFELE	801.13.220	CHROME	OVAL WARDROBE ROD, WELDED
CHW-006A	COAT ROD SUPPORT HANGER	HAFELE	803.33.210	CHROME	ROD SUPPORT HANGER
CHW-007	GROMMET	DOUG MOCKET	EDP SERIES	BLACK	3" HOLE
CHW-008	FILE RAIL SYSTEM	KINETRON CORP.	KI58	ZINC	KINE FLEX FILE BAR RAIL - PROVIDE TWO SETS PER FILE DRAWER
CHW-009	FILE RAIL SYSTEM	KINETRON CORP.	KINHFB	ZINC	KINE FLEX FILE BRACKETS - PROVIDE TWO SETS PER FILE DRAWER
CHW-010	LOCKER LOCK-HASP	OLYMPUS LOCK INC.	DCP PADLOCKABLE CAM LOCK LATCH	US26	PROVIDE AT EACH LOCKER
CHW-011	RECESSED COUNTER TOOTH BRUSH HOLDER	GREENO	4" DIA. X 5" DEEP TOOTH BRUSH HOLDER	WHITE	RECESSSED TOOTH BRUSH HOLDER
CHW-012	WASTE GROMMET	GREENO	WC-8 WASTE CHUTE	WHITE	8" DIA. WASTE CHUTE WITH BAG HOLDER (TRASH / TOWEL GROMMIET LOCATIONS)
CHW-012A	WASTE GROMMET	GREENO	WC-4 WASTE CHUTE	WHITE	4" DIA. WASTE CHUTE WITH BAG HOLDER
CHW-012B	WASTE GROMMET	GREENO	WC-5 WASTE CHUTE	WHITE	5" DIA. WASTE CHUTE WITH BAG HOLDER
CHW-012C	WASTE GROMMET	GREENO	WC-4 WASTE CHUTE	WHITE	4" DIA. WASTE CHUTE WITH BAG HOLDER
CHW-012D	WASTE GROMMET	GREENO	SS-5 1/2"	STAINLESS STEEL	5.5" DIA. WASTE CHUTE
CHW-012E	WASTE GROMMET	GREENO	SS-4"	STAINLESS STEEL	4" DIA. WASTE CHUTE
CHW-013	IN-CABINET SHARPS CONTAINER	GREENO	187 BIOHAZARD (23 QUART) SHARPS CONTAINER WITH SCHL GROMMET / FLANGE #GQ101057	RED (CONTAINER) / WHITE (GROMMET)	SHARPS CONTAINER WITH SHARPS CONTAINER HOLDER & TOP TRIM FLANGE (SCH-L (6.5" X 7.5")) AND UNDER COUNTER COUNTER HOLDER (PTD X12"W X 18"H)
CHW-014	TRASH - LARGE	CARLISLE	BRONCO SQUARE 28 GAL. #34152823	BLACK	PROVIDED BY CONTRACTOR
CHW-015A	TRASH - SLIM	REV-A-SHELF	RV-12PB S (SLIDES & CONTAINER)	WHITE	PROVIDED BY CONTRACTOR
CHW-15B	TRASH - MOUNTING KIT	REV-A-SHELF	RV DM17 KIT (HEAVY DUTY DOOR MOUNT KIT)	WHITE	PROVIDE WITH CWH-15A (C.F.C.I.)
CHW-015C	TRASH CAN (BASIS OF DESIGN)	ZORO	G2101057	BLACK	11" DEEP X 15.25" WIDE X 19.9"HT. PLACED IN CABINET (CFCI)
CHW-016	CASEWORK FACE MOUNT VENTILATION PANEL	DOUG MOCKET	GT Grille Mesh1 4"x12"	LIGHT GREY	CASEWORK VENTILATION GRILL FOR A/V / IT CABINETS
CHW-017A	GLOVE BOX HOLDER - SINGLE	GREENO	GBH-S SINGLE	WHITE	6" WIDE X 4" DEEP X 2.5" HEIGHT. PROVIDE (1) OVAL GROMMETS AT MILLWORK (BLACK) BY GREENO
CHW-017B	GLOVE BOX HOLDER - DOUBLE	GREENO	GBH-D DOUBLE	WHITE	11" WIDE X 4" DEEP X 2.5" HEIGHT. PROVIDE (1) OVAL GROMMETS AT MILLWORK (BLACK) BY GREENO
CHW-017C	GLOVE BOX HOLDER - TRIPLE	GREENO	GBH-T TRIPLE	WHITE	16.75" WIDE X 4" DEEP X 2.5" HEIGHT. PROVIDE (2) OVAL GROMMETS AT MILLWORK (BLACK) BY GREENO
CHW-018	MASK DISPENSER	GREENO	#2M MASK	WHITE	16.75" WIDE X 4" DEEP X 2.5" HEIGHT. PRW WIDE X 4.5" DEEP X 6" HEIGHT (CONTRACTOR TO PROVIDE PVC EDGING AT CASEWORK OPENING).
CHW-019	GLASS RETAINER CLIP	HAFELE	-	PLASTIC - CLEAR	CLIPS FOR GLASS INSERT IN CASEWORK DOOR FRONTS.
CHW-020	Industrial Polyamide Rubber Caster	RICHELEU	F24804	PLASTIC - CLEAR	SWIVEL WITH DOUBLE-LOCK BRAKE, BLUE COLOR, 441# CAPACITY PER CASTER
CHW-021	SWING LIFT-UP CASEWORK DOOR HARDWARE	SUGATSUNE	SLU-EL-AN	METAL	LAPCON STAY FOR SWING LIFT-UP DOORS. MAX. HT = 24.2 / DOOR
CHW-022	COMPACT SOFT-DOWN STAY	SUGATSUNE	CSD-10-TV	WHITE	DRAWER DOOR VERTICAL HINGE SYSTEM. NOTE: FRONT DRAWER PANEL IS NOT CONNECTED TO DRAWER LOCATED DIRECTLY BEHIND DRAWER PANEL.

06 41 16 CASEWORK FINISH SCHEDULE

ID NUMBER	DESCRIPTION	OUTSIDE FINISH	CORE MATERIAL	INSIDE FINISH	TOP/FRONT EDGE	BOTTOM/BACK EDGE	LEFT EDGE	RIGHT EDGE
1	DRAWER FRONT	VGS	3/4" MDF	CLS	PVC	PVC	PVC	PVC
2	DRAWER SUBFRONT	MELAMINE	1/2" MDF	MELAMINE	MELAMINE	MELAMINE	MELAMINE	MELAMINE
3	DRAWER BACK	MELAMINE	1/2" MDF	MELAMINE	MELAMINE	MELAMINE	MELAMINE	MELAMINE
4	DRAWER SIDES	MELAMINE	1/2" MDF	MELAMINE	PVC	MELAMINE	MELAMINE	MELAMINE
5	DRAWER BOTTOM	MELAMINE	1/2" MDF	UNFINISHED		MELAMINE	MELAMINE	MELAMINE
6	DOOR FRONT	VGS	3/4" MDF	CLS	PVC	PVC	PVC	PVC
7	BASE CABINET BACK	MELAMINE	1/2" MDF	BACKER	-	-	-	-
8	TOEKICK FRONT AND BACK	SEE DRAWINGS	Plywood	PLYWOOD		-	SEE DRAWINGS IF EXPOSED	SEE DRAWINGS IF EXPOSED
9A	BASE CABINET END - (FINISHED)	VGS	3/4" MDF	MELAMINE	PVC (EXPOSED)	-	PVC (EXPOSED)	PVC (EXPOSED)
9B	BASE CABINET END - (UNFINISHED)	MELAMINE	3/4" MDF	MELAMINE	-	-	PVC (EXPOSED)	PVC (EXPOSED)
10	BASE CABINET BOTTOM	MELAMINE	3/4" MDF	MELAMINE	PVC (EXPOSED)	-	-	-
11A	BASE CABINET SPREADERS	MELAMINE	3/4" MDF	MELAMINE	-	-	-	-
11B	BASE CABINET TOP	MELAMINE	3/4" MDF	MELAMINE	-	-	-	-
12	COUNTERTOP SURFACE	SEE ELEVATIONS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS
13	COUNTERTOP SPLASH	SEE ELEVATIONS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS
13A	COUNTERTOP SPLASH RETURN AT CORNER WALL LOCATION	SEE ELEVATIONS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS	SEE DETAILS
14	WALL CABINET BACK	MELAMINE	1/2" MDF	MELAMINE		-		
15A	WALL CABINET END - (FINISHED)	VGS	3/4" MDF	MELAMINE	PVC	-	PVC (EXPOSED)	PVC (EXPOSED)
15B	WALL CABINET END - (UNFINISHED)	MELAMINE	3/4" MDF	MELAMINE	PVC	-	VGS	
16	WALL CABINET TOP	VGS (EXPOSED)	3/4" MDF	MELAMINE	PVC	-	PVC (EXPOSED)	PVC (EXPOSED)
17	WALL CABINET BOTTOM	MELAMINE	3/4" MDF	MELAMINE	PVC	-	PVC (EXPOSED)	PVC (EXPOSED)
18	ADJUSTABLE SHELF	MELAMINE	"3/4" MDF	MELAMINE	PVC	-	-	-
19	EXPOSED ADJUSTABLE SHELF	VGS	"3/4" MDF	VGS	PVC	-	-	-
20	EXPOSED CABINET BACK	VGS	1/2" MDF	BACKER	-	-	-	-
21	EXPOSED BASE CABINET BOTTOM	VGS (EXPOSED)	3/4" MDF	UNFINISHED	PVC (EXPOSED)	-	-	-



OPEN CABINET (SIMILAR FOR OPEN UPPER CABINETS) CABINET WITH DRAWER / DOOR FACES

CASEWORK DIAGRAM

standard construction components

CASEWORK DIAGRAM AND SCHEDULES | A1

1/2" = 1'-0"

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CASEWORK COORDINATION NOTES

VGS	VERTICAL; GRADE (.028) PLASTIC LAMINATE USED ON CABINET DOORS, DRAWERS AND FINISHED ENDS
CLS	CABINET LINER, HIGH PRESSURE LAMINATE (.020) USED ON BACK OF DOORS AND FINISHED ENDS
BKL	BACKER
MELAMINE	LOW PRESSURE MELAMINE LAMINATE
PVC	EDGEBANDING, HIGH IMPACT PVC EDGING - PVC EDGING FINISH TO MATCH ADJACENT PLAM U.N.O.

1. RE: SHEET A-540 FOR ALL STANDARD CASEWORK COUNTERTOP TYPES.
2. RE: SHEET A-540 FOR ALL STANDARD CASEWORK HARDWARE (CWH-#) SPECIFICATIONS.
3. RE: SHEET A-540 FOR ALL MISC. DETAILS AND REQUIREMENTS.
4. RE: SHEET A-540 FOR ALL WALL BLOCKING AND WALL / FLOOR ANCHORAGE DETAILS.
5. RE: SHEET A-540 FOR CASEWORK FINISH REQUIREMENTS.

AWI DETAIL INDEX:

200 SERIES: A1, B1/A-550
300 SERIES: B3/A-550

GENERAL CASEWORK NOTES:

1. ADJUSTABLE SHELVING TO BE 3/4" SHELVES. OVER 32" SPAN TO BE 1" THICK MATERIAL PER "AWI" STANDARDS.
2. ALL CASEWORK MATERIALS AND CONSTRUCTION DETAILS SHALL CONFORM TO THE REQUIREMENTS OF THE AWI ARCHITECTURAL WOODWORK QUALITY STANDARDS FOR CUSTOM GRADE.
3. ALL JOINTS SHALL BE 1/8", TYPICAL.
4. ALL VERTICAL DIMENSIONS ARE TO TOP OF JOINT UNLESS NOTED OTHERWISE.
5. ALL CASEWORK HARDWARE (CHW) ARE TO BE CONTRACTOR FURNISH / CONTRACTOR INSTALLED (C.F.C.I.) U.N.O.
6. CASEWORK WIDTHS TO BE BASED ON MODULAR INCREMENTS OF 3" U.N.O.
7. PROVIDE FILLER PANELS TO FINISH OUT TO SCRIBE TO WALLS (NOT SHOWN ON INTERIOR ELEVATIONS).
8. PROVIDE FILLER PANELS AND TRIM WHERE EQUIPMENT IS LOCATED WITHIN CABINETS.
9. PROVIDE FINISHED END PANELS AND END RETURNS AT OPEN ENDED CABINETS, KNEE SPACES AND ACCESSIBLE SINKS.
10. PROVIDE 1-1/2" THICK PLAM FINISHED (U.N.O.) END PANEL AT FREE STANDING END OF ACCESSIBLE SINKS AND KNEE SPACES.
11. WHEN FILLER PANELS ARE REQUIRED AT BOTH ENDS OF CASEWORK TERMINATION, BOTH PANEL FILLER PANELS SHALL BE EQUAL WIDTH.
12. GLASS FRONTS TO BE 1/4" THICK CLEAR (U.N.O. - RE: INTERIOR ELEVATIONS) TEMPERED GLASS.
13. PERFORATED METAL PANELS USED AS INSERTS TO BE MCNICHOLS ROUND CARBON STEEL (SEALED) 12 GA. 3/16" ROUND HOLES ON 1/4" STAGGERED CENTERS - 51% OPEN AREA.

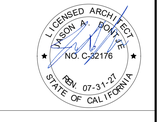
PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

DATE	**10/07/2026**
PROJECT #	**026.0084.00**

DESIGN PROFESSIONAL

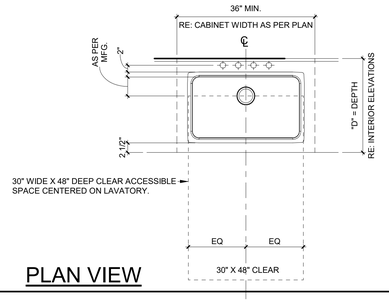


TITLE

CASEWORK LEGEND & SCHEDULE

SHEET #

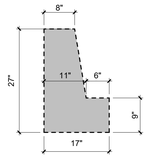
A-540



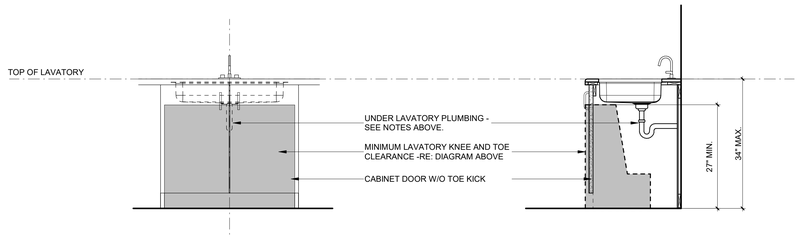
PLAN VIEW

NOTES:

1. DRAIN AND HOT WATER PIPING SHALL BE INSULATED OR OTHERWISE CONFIGURED / CONCEALED TO PROTECT AGAINST DIRECT CONTACT.
2. THERE SHALL BE NO SHARP OR ABRASIVE ELEMENTS UNDER LAVATORY.



MIN. LAVATORY KNEE AND TOE CLEARANCE



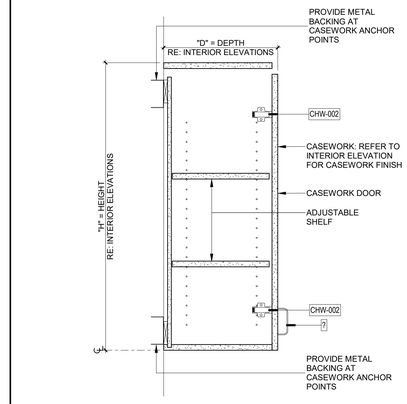
FRONT VIEW

SIDE VIEW

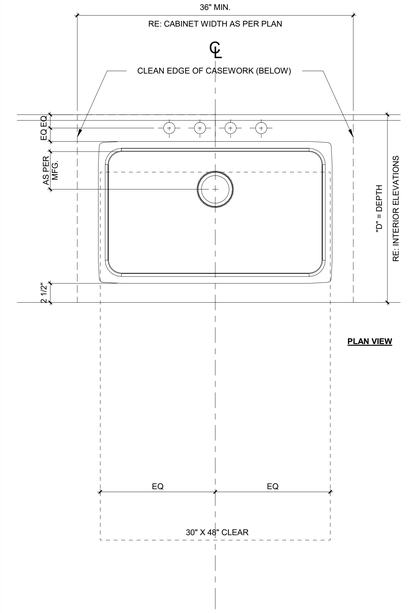
ACCESSIBLE SINK WITH CASEWORK — B5
DETAIL — 3/4" = 1'-0"

LAVATORIES AND SINKS NOTES

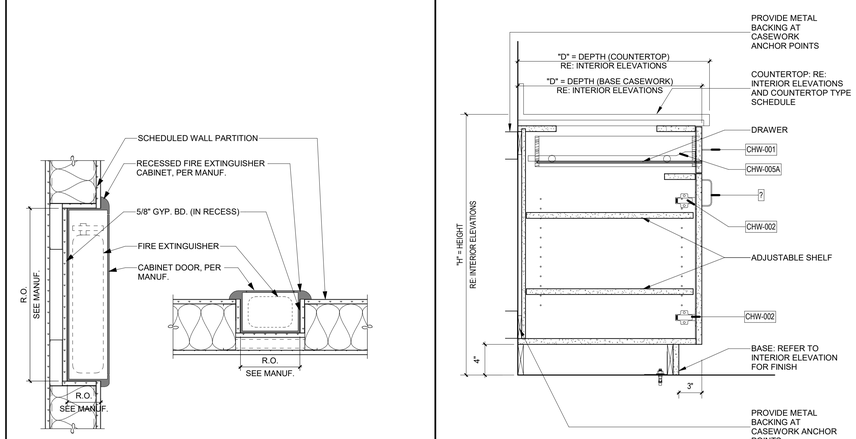
1. A CLEAR FLOOR SPACE COMPLYING WITH SECTION 11B-305, POSITIONED FOR A FORWARD APPROACH, AND KNEE AND TOE CLEARANCE COMPLYING WITH SECTION 11B-306 SHALL BE PROVIDED. [11B-606.2]
2. A PARALLEL APPROACH COMPLYING WITH SECTION 11B-305 SHALL BE PERMITTED TO A KITCHEN SINK IN A SPACE WHERE A COOK TOP OR CONVENTIONAL RANGE IS NOT PROVIDED AND TO WET BARS. [11B-606.2, EXCEPTION 1]
3. LAVATORIES AND SINKS SHALL BE INSTALLED WITH THE FRONT OF THE HIGHER OF THE RIM OR COUNTER SURFACE 34 INCHES MAXIMUM ABOVE THE FINISH FLOOR OR GROUND. [11B-606.3]
4. CONTROLS OF FAUCETS SHALL COMPLY WITH SECTION 11B-309.
5. WATER SUPPLY AND DRAIN PIPES UNDER LAVATORIES AND SINKS SHALL BE INSULATED OR OTHERWISE CONFIGURED TO PROTECT AGAINST CONTACT. THERE SHALL BE NO SHARP OR ABRASIVE SURAFCES UNDER LAVATORIES AND SINKS. [11B-606.5]
6. LAVATORIES WHEN LOCATED ADJACENT TO A SIDE WALL OR PARTITION, SHALL BE A MINIMUM OF 18 INCHES TO THE CENTERLINE OF THE FIXTURE. [11B-606.6]
7. SINKS SHALL BE 6 1/2 INCHES DEEP MAXIMUM. [11B-606.7]



CW-302 & 303 - UPPER CASEWORK WITH DOORS — B3
1 1/2" = 1'-0"

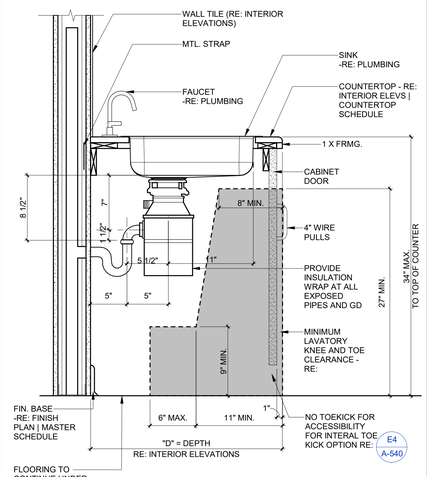


PLAN VIEW



FIRE EXTINGUISHER CABINET — C1
1 1/2" = 1'-0"

CW 211 & 222 SERIES - BASE CASEWORK WITH DRAWER — B1
1 1/2" = 1'-0"



NOTES:
1. CONTRACTOR TO CONFIRM DIMENSIONS WITH SINK AND DISPOSER AND MAINTAIN ACCESSIBILITY
2. KNEE AND TOE SPACE (SHADED AREA) SHALL BE PROVIDED AS REQ'D BY CBC 11B-306.3 & FIGURE 11B-306.3 (a).
3. HOT WATER AND DRAIN PIPES UNDER SINKS SHALL BE INSULATED OR OTHERWISE COVERED
4. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES UNDER SINKS

SINK CABINET W/ DISPOSER - CW 155 — A1
1 1/2" = 1'-0"

AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

CASEWORK COORDINATION NOTES

VGS	VERTICAL; GRADE (.028) PLASTIC LAMINATE USED ON CABINET DOORS, DRAWERS AND FINISHED ENDS
CLS	CABINET LINER, HIGH PRESSURE LAMINATE (.020) USED ON BACK OF DOORS AND FINISHED ENDS
BKL	BACKER
MELAMINE	LOW PRESSURE MELAMINE LAMINATE
PVC	EDGEBANDING, HIGH IMPACT PVC EDGING - PVC EDGING FINISH TO MATCH ADJACENT PLAM U.N.O.

1. RE: SHEET A-540 FOR ALL STANDARD CASEWORK COUNTERTOP TYPES.
2. RE: SHEET A-540 FOR ALL STANDARD CASEWORK HARDWARE (CWH-#) SPECIFICATIONS.
3. RE: SHEET A-540 FOR ALL MISC. DETAILS AND REQUIREMENTS.
4. RE: SHEET A-540 FOR ALL WALL BLOCKING AND WALL / FLOOR ANCHORAGE DETAILS.
5. RE: SHEET A-540 FOR CASEWORK FINISH REQUIREMENTS.

AWI DETAIL INDEX:

200 SERIES: A1, B1/A-550
300 SERIES: B3/A-550

GENERAL CASEWORK NOTES:

1. ADJUSTABLE SHELVING TO BE 3/4" SHELVES. OVER 32" SPAN TO BE 1" THICK MATERIAL PER "AWI" STANDARDS.
2. ALL CASEWORK MATERIALS AND CONSTRUCTION DETAILS SHALL CONFORM TO THE REQUIREMENTS OF THE AWI ARCHITECTURAL WOODWORK QUALITY STANDARDS FOR CUSTOM GRADE.
3. ALL JOINTS SHALL BE 1/8", TYPICAL.
4. ALL VERTICAL DIMENSIONS ARE TO TOP OF JOINT UNLESS NOTED OTHERWISE.
5. ALL CASEWORK HARDWARE (CHW) ARE TO BE CONTRACTOR FURNISH / CONTRACTOR INSTALLED (C.F.C.I.) U.N.O.
6. CASEWORK WIDTHS TO BE BASED ON MODULAR INCREMENTS OF 3" U.N.O.
7. PROVIDE FILLER PANELS TO FINISH OUT TO SCRIBE TO WALLS (NOT SHOWN ON INTERIOR ELEVATIONS).
8. PROVIDE FILLER PANELS AND TRIM WHERE EQUIPMENT IS LOCATED WITHIN CABINETS.
9. PROVIDE FINISHED END PANELS AND END RETURNS AT OPEN ENDED CABINETS, KNEE SPACES AND ACCESSIBLE SINKS.
10. PROVIDE 1-1/2" THICK PLAM FINISHED (U.N.O.) END PANEL AT FREE STANDING END OF ACCESSIBLE SINKS AND KNEE SPACES.
11. WHEN FILLER PANELS ARE REQUIRED AT BOTH ENDS OF CASEWORK TERMINATION, BOTH PANEL FILLER PANELS SHALL BE EQUAL WIDTH.
12. GLASS FRONTS TO BE 1/4" THICK CLEAR (U.N.O. - RE: INTERIOR ELEVATIONS) TEMPERED GLASS.
13. PERFORATED METAL PANELS USED AS INSERTS TO BE MCNICHOLS ROUND CARBON STEEL (SEALED) 12 GA. 3/16" ROUND HOLES ON 1/4" STAGGERED CENTERS - 51% OPEN AREA.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE **10/07/2026**

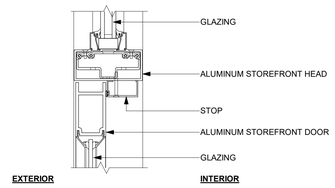
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. POINTE NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE
CASEWORK DETAILS

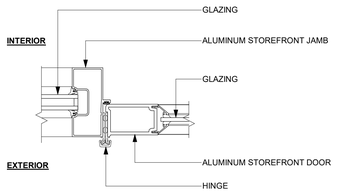
SHEET #
A-550



NOTE: FRAME DEPTH TO BE DETERMINED BY OVERALL WALL THICKNESS

EXTERIOR AL DOOR HEAD AT TRANSOM WINDOW — C5

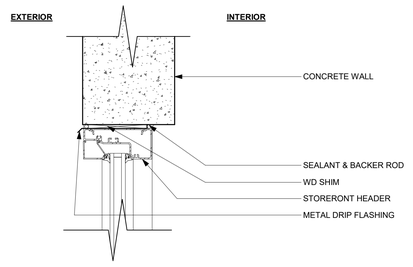
3" = 1'-0"



NOTE: FRAME DEPTH TO BE DETERMINED BY OVERALL WALL THICKNESS

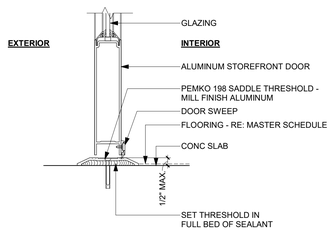
EXTERIOR AL DOOR JAMB — C4

3" = 1'-0"



EXTERIOR AL WINDOW HEAD AT CONCRETE WALL — D3

3" = 1'-0"



EXTERIOR AL DOOR THRESHOLD — C3

3" = 1'-0"

DOOR SCHEDULE

DOOR NUMBER	DOOR (CLEAR) OPENING WIDTH	DOOR (CLEAR) OPENING HEIGHT	FIRE RATING	DOOR TYPE	DOOR MATERIAL	DOOR FINISH	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	GLAZING TYPE	DETAILS HEAD RE:	DETAILS JAMB RE:	DETAILS THRESHOLD RE:	HDWR. GROUP NUMBER	HDWR PROVIDED BY	COMMENTS
101A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
102A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
103A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
104A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
105A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
106A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
107A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	3.0	OFCI	
108A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	3.0	OFCI	
109A	3' - 4"	7' - 10"	N/A	F2	ALUM	-	-	ALUM	-	GL-1	D3/A-600	D2/A-600	D1/A-600	1.0		REINSTALL CARD READER
109B	3' - 0"	6' - 8"	N/A	A1	HM	PT-3	A1	HM	PT-3	-	-	-	-	-		EXISTING DOOR TO REMAIN
110A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
110B	4' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
111A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	4.0	OFCI	PROVIDE 12" X 12" DOOR LOUVER
112A	4' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	4.0	OFCI	
113A	4' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	4.0	OFCI	
114A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
115A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
116A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
117A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
119A	3' - 0"	6' - 8"	N/A	A1	HM	PT-3	A1	HM	PT-3	-	-	-	-	-		EXISTING DOOR TO REMAIN
120A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	4.0	OFCI	
121A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
122A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
123A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	3.0	OFCI	
124A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	3.0	OFCI	
125A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
126A	3' - 4"	7' - 10"	N/A	F2	ALUM	-	-	ALUM	-	GL-1	D3/A-600	D2/A-600	D1/A-600	1.0		REINSTALL CARD READER
127A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
128A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
128B	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	2.0	OFCI	
129A	3' - 4"	7' - 10"	N/A	F2	ALUM	-	-	ALUM	-	GL-1	D3/A-600	D2/A-600	D1/A-600	1.0		REINSTALL CARD READER
130A	3' - 0"	6' - 8"	N/A	B1	SCW	PT-3	A1	HM	PT-3	-	C2/A-600	C2/A-600	C1/A-600	4.0	OFCI	

GENERAL DOOR NOTES:

1. ALL EXIT DOORS SHALL BE OPERABLE FROM THE INTERIOR WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT PER CBC SECTION 1010.1.9.
2. MAXIMUM EFFORT TO OPERATE DOORS:
   A. INTERIOR: 5 LBS
   B. EXTERIOR: 5 LBS
   C. FIRE RATED: 15 LBS
3. AUTHORITY HAVING JURISDICTION MAY APPROVE ADJUSTMENT UP TO 15 LBS.
4. THE BOTTOM 10 INCHES OF ALL DOORS ON THE PUSH SIDE (EXCEPT SLIDING DOORS) SHALL HAVE A SMOOTH UNINTERRUPTED SURFACE PER CBC 11B-404.2.10
5. NOTE: ALL HARDWARE IS ACCESSIBLE COMPLAINT (LEVER TYPE OR PUSH - PULL) PER CBC 11B-309.4
6. RE: MASTER SCHEDULE (A-140 SHEET SERIES) FOR ALL FINISH REQUIREMENTS.
7. RE: G-001 FOR ALL TYPICAL ABBREVIATIONS
8. RE: G-001 FOR ALL TYPICAL SYMBOLS
9. RE: FLOOR PLAN(S) FOR DOOR LOCATIONS.
10. ALL GLASS IN DOORS SHALL BE TEMPERED GLASS (TG).
11. ALL DOOR HARDWARE TO COMPLY WITH CBC SECTION 1010.1.9.2 HARDWARE HEIGHT. DOOR HANDLES, PULLS, LATCHES,LOCKS AND OTHER OPERATING DEVICES SHALL BE INSTALLED 34 INCHES (684 MM) MINIMUM AND 48 INCHES (1219 MM) MAXIMUM ABOVE FINISHED FLOOR. LOCKS USED FOR SECURITY PURPOSES AND NOT USED FOR NORMAL OPERATION ARE PERMITTED AT ANY HEIGHT.
12. ALL DOOR THRESHOLDS SHALL COMPLY WITH DETAIL: C1 / A-600

ABBREVIATIONS

ALUM	ALUMINUM
ANOD	CLEAR ANODIZED
FF	FACTORY FINISH
HM	HOLLOW METAL
PL	PLASTIC LAMINATE
PT	PAINT
SCW	SOLID CORE WOOD
TG	TEMPERED GLAZING
GALV	GALVANIZED

GLAZING TYPES

GL-1 1" INSULATED CLEAR TEMPERED

MFR ABBREVIATIONS

HAG	HAGER
IVE	IVES
LCN	LCN
SCH	SCHLAGE
TRM	TRIMCO

DOOR HARDWARE SET

Set: 1.0

HARDWARE FOR GLASS DOORS LOCATED IN GLASS PARTITION SYSTEM SHALL BE PROVIDED BY MANUFACTURER OF PARTITION SYSTEM (HINGES, CLOSERS, LEVER-HANDLE LOCKSETS)

Set: 2.0 (OFCI)

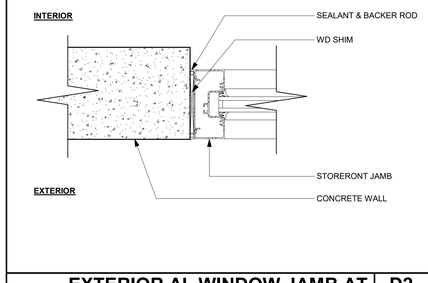
QTY	COMPONENT DESC.	CATALOG NUMBER	FINISH	MFR
3	HINGE	BB1279 - 4.5 x 4.5	640	HAG
1	LOCKSET	ND10S x RHO x K510-066	613	SCH
1	PERMANENT CORE	MATCH EXISTING	606	---
1	WALL BUMPER	1270WV	613	TRM
3	SILENCERS	SR66	GRY	IVE

Set: 3.0 (OFCI)

QTY	COMPONENT DESC.	CATALOG NUMBER	FINISH	MFR
3	HINGE	BB1279 - 4.5 x 4.5	640	HAG
1	LOCKSET	ND40S x RHO OS-OCC x K510-066	613	SCH
1	PERMANENT CORE	MATCH EXISTING	606	---
1	WALL BUMPER	1270WV	613	TRM
3	SILENCERS	SR66	GRY	IVE

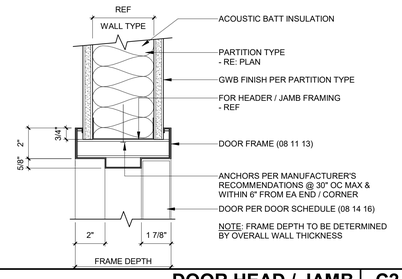
Set: 4.0 (OFCI)

QTY	COMPONENT DESC.	CATALOG NUMBER	FINISH	MFR
3	HINGE	BB1279 - 4.5 x 4.5	640	HAG
1	LOCKSET	ND80JD x RHO x K510-066	613	SCH
1	PERMANENT CORE	MATCH EXISTING	606	---
1	WALL BUMPER	1270WV	613	TRM
3	SILENCERS	SR66	GRY	IVE



EXTERIOR AL WINDOW JAMB AT CONCRETE WALL — D2

3" = 1'-0"



DOOR HEAD / JAMB — C2

3" = 1'-0"

ALL DOOR AND FINISH TRANSITIONS SHALL MEET THE FOLLOWING PER CBC SECTIONS 1010.1.7 & 11B-303.

11B-303 CHANGES IN LEVEL

11B-303.1 GENERAL. WHERE CHANGES IN LEVEL ARE PERMITTED IN FLOOR OR GROUND SURFACES, THEY SHALL COMPLY WITH 11B-303.

EXCEPTIONS:

1. ANIMAL CONTAINMENT AREAS SHALL NOT BE REQUIRED TO COMPLY WITH 11B-303.
2. AREAS OF SPORT ACTIVITY SHALL NOT BE REQUIRED TO COMPLY WITH 11B-303.

11B-303.2 VERTICAL. CHANGES IN LEVEL OF 1/4 INCH (6.4 MM) HIGH MAXIMUM SHALL BE PERMITTED TO BE VERTICAL AND WITHOUT EDGE TREATMENT.

11B-303.3 BEVELED. CHANGES IN LEVEL BETWEEN 1/4 INCH (6.4 MM) HIGH MINIMUM AND 1/2 INCH (12.7 MM) HIGH MAXIMUM SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1:2.

NOTE: CHANGES IN LEVEL GREATER THAN 1/2 INCH (13 MM) HIGH SHALL BE RAMPED PER 11B-303.4

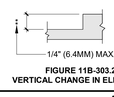


FIGURE 11B-303.2 VERTICAL CHANGE IN ELEVATION

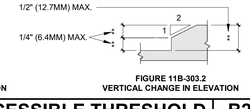
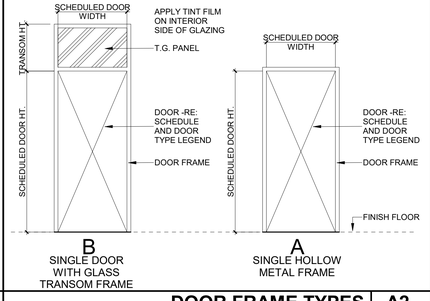


FIGURE 11B-303.2 VERTICAL CHANGE IN ELEVATION

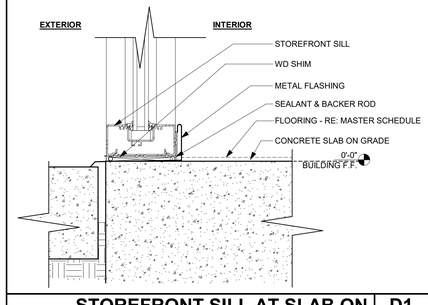
ACCESSIBLE THRESHOLD REQUIREMENTS — B2

12" = 1'-0"



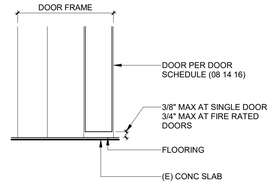
DOOR FRAME TYPES — A2

3/8" = 1'-0"



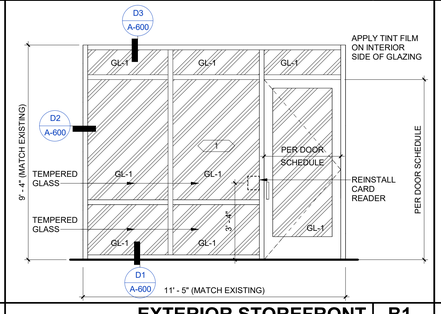
STOREFRONT SILL AT SLAB ON GRADE — D1

3" = 1'-0"



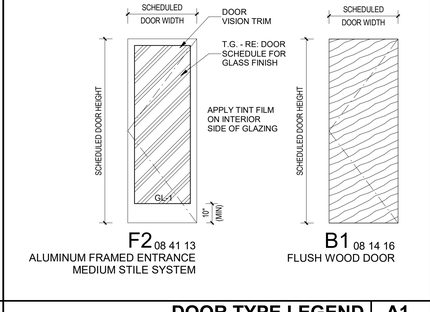
DOOR THRESHOLD — C1

3" = 1'-0"



EXTERIOR STOREFRONT — B1

3/8" = 1'-0"



DOOR TYPE LEGEND — A1

3/8" = 1'-0"

AGENCY APPROVAL

studio+
2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

LICENSED ARCHITECT JASON A. BOWLES NO. C-32176 REN. 07-31-27 STATE OF CALIFORNIA

TITLE

DOOR SCHEDULE / DOOR AND FRAME TYPES

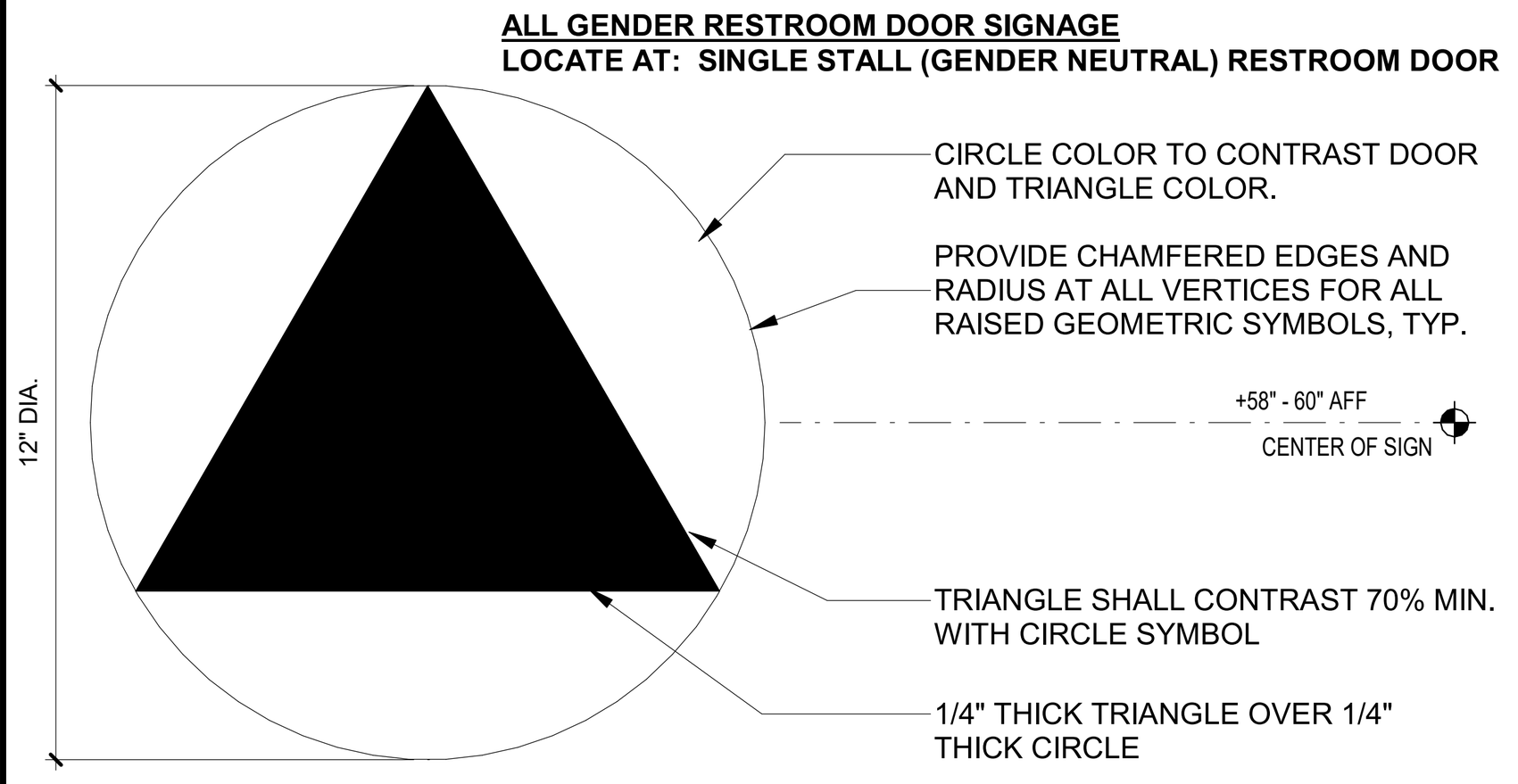
SHEET #

A-600

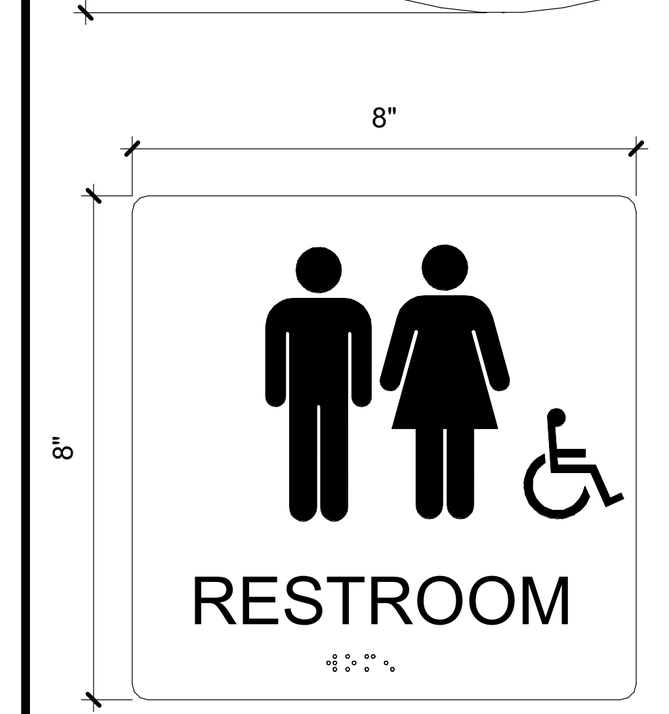
CS-T## TYPE: RESTROOM (TOILET FACILITIES) SIGNS

CS-T01

ALL GENDER RESTROOM DOOR SIGNAGE
LOCATE AT: SINGLE STALL (GENDER NEUTRAL) RESTROOM DOOR



CS-T02

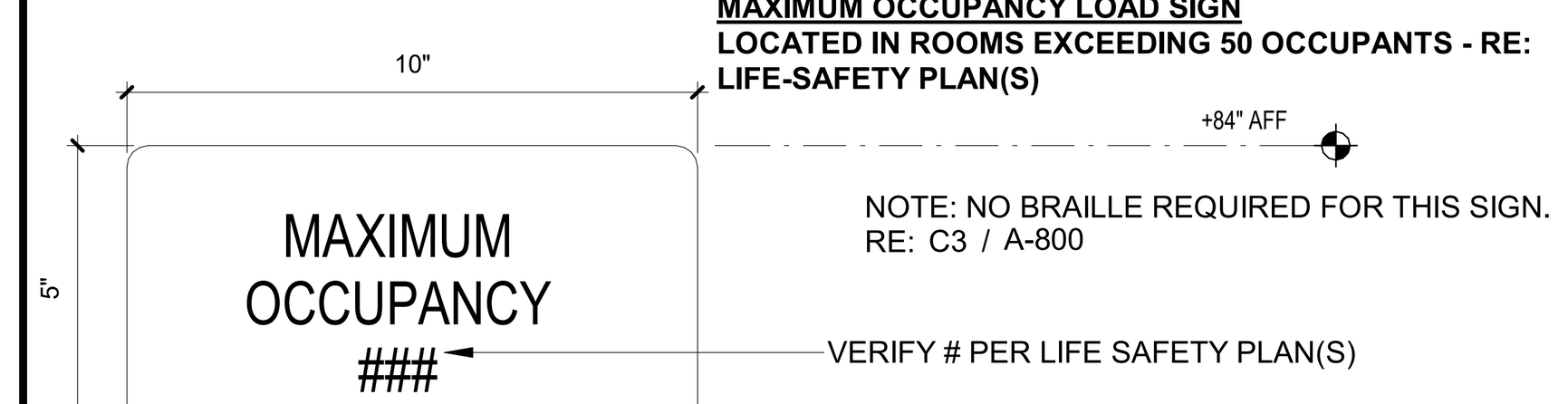


ALL GENDER RESTROOM SIGNAGE
LOCATE AT: STRIKE SIDE OF SINGLE STALL (GENDER NEUTRAL) RESTROOM DOOR FROM ACCESSIBLE CORRIDOR / HALLWAY

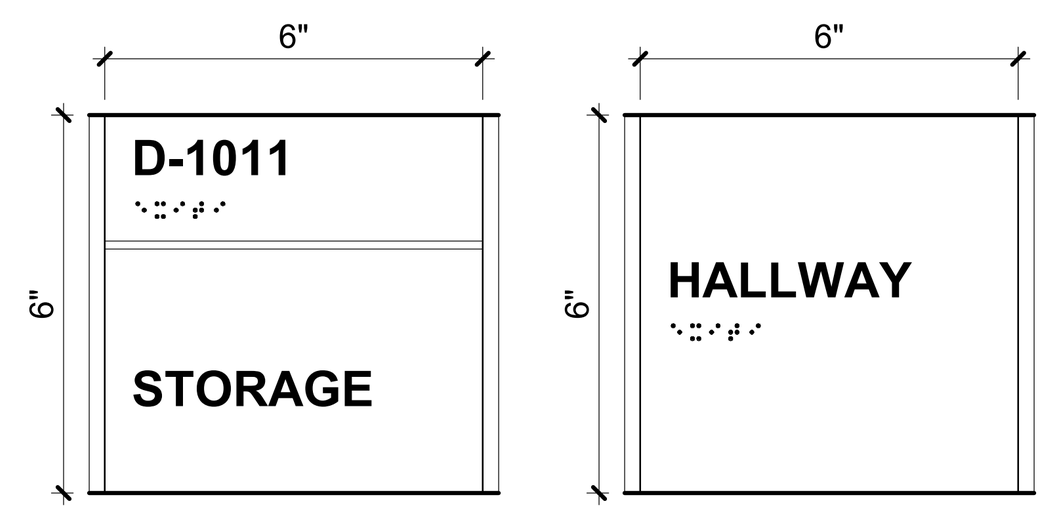
CS-M## TYPE: MISC. CODE REQUIRED SIGNS

CS-M03

MAXIMUM OCCUPANCY LOAD SIGN
LOCATED IN ROOMS EXCEEDING 50 OCCUPANTS - RE: LIFE-SAFETY PLAN(S)

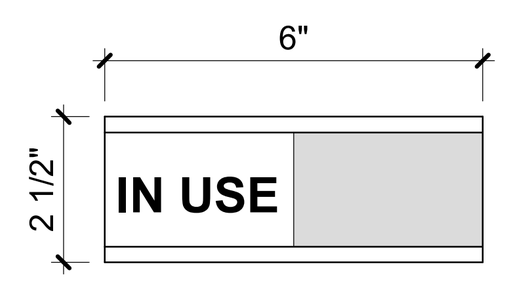


CS-R## TYPE: ROOM SIGNS



CS-R01

ROOM NAME & NUMBER SIGN
LOCATE AT EACH ROOM - CORRIDOR / HALLWAY SIDE.



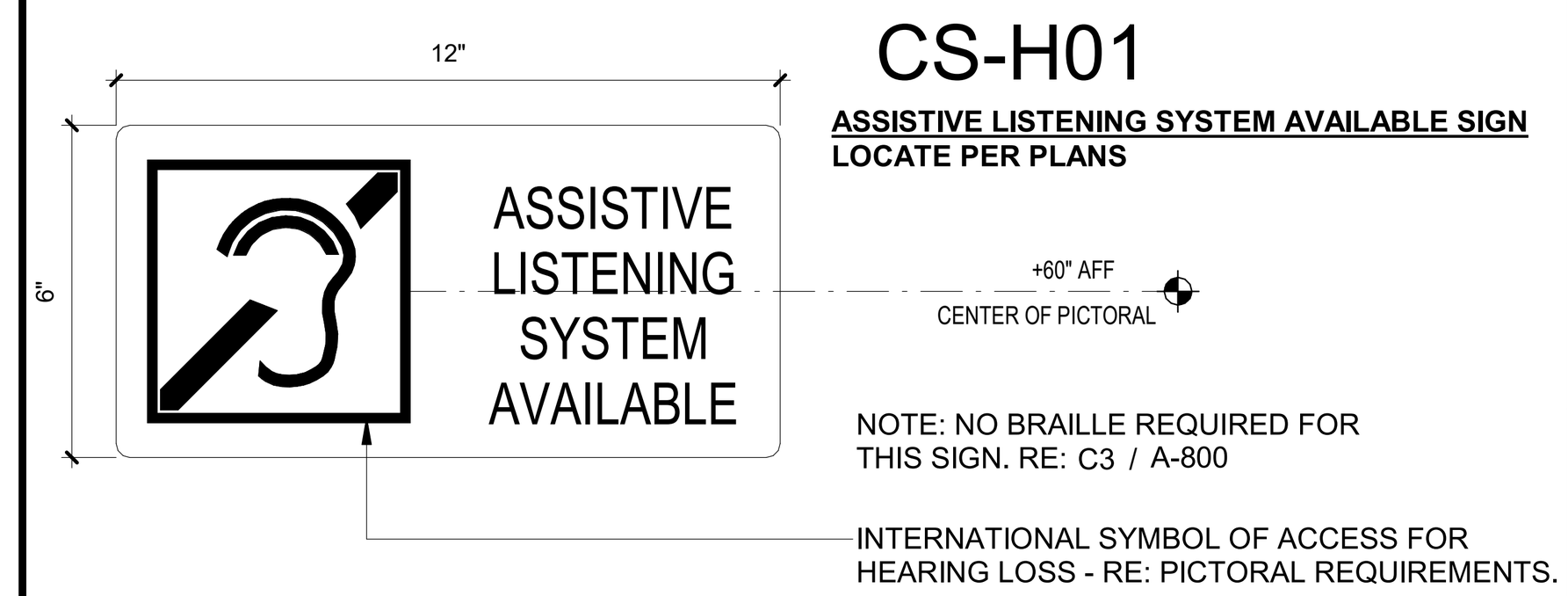
CS-R02

ROOM NAME & NUMBER SIGN
LOCATE AT EACH ROOM - CORRIDOR / HALLWAY SIDE.

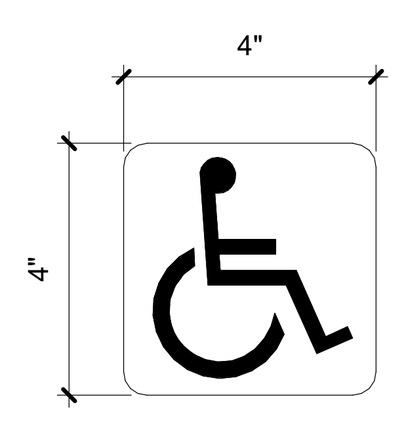
CS-H## TYPE: HEARING IMPAIRED SIGNS

CS-H01

ASSISTIVE LISTENING SYSTEM AVAILABLE SIGN
LOCATE PER PLANS



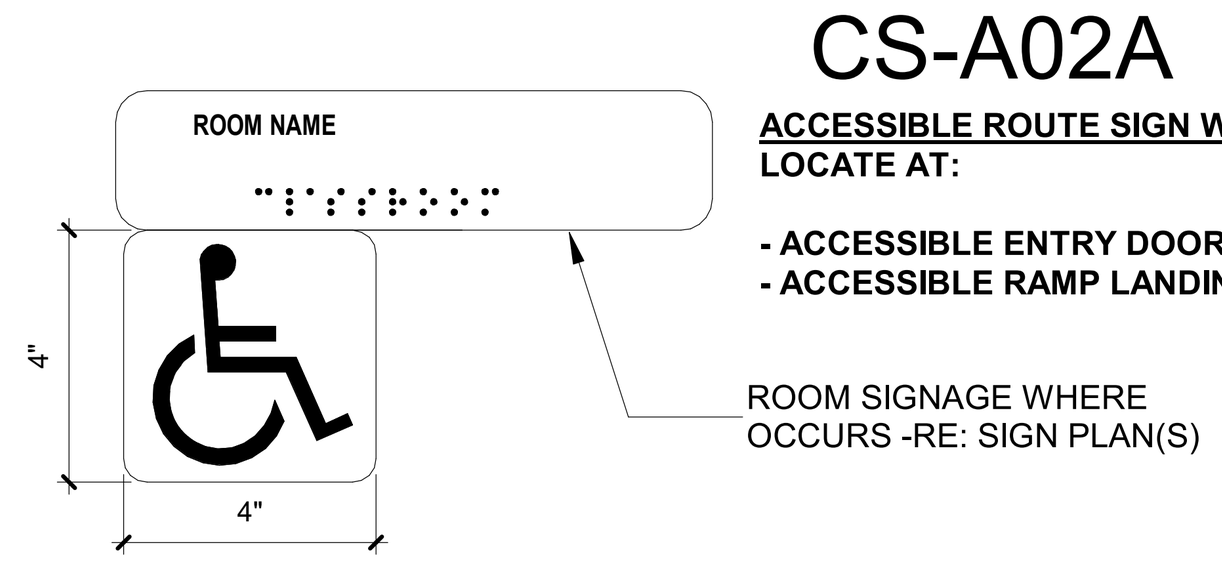
CS-A## TYPE: ACCESSIBILITY SIGNS



CS-A02

ACCESSIBLE ROUTE SIGN
LOCATE AT:

- ACCESSIBLE ENTRY DOORS
- ACCESSIBLE RAMP LANDINGS

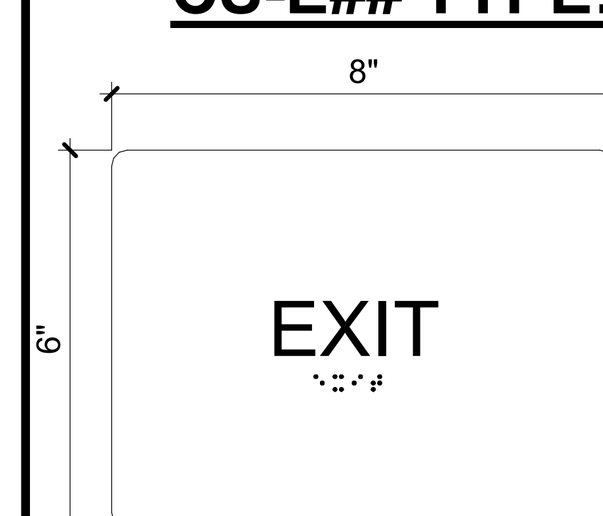


CS-A02A

ACCESSIBLE ROUTE SIGN WITH ROOM SIGN ABOVE
LOCATE AT:

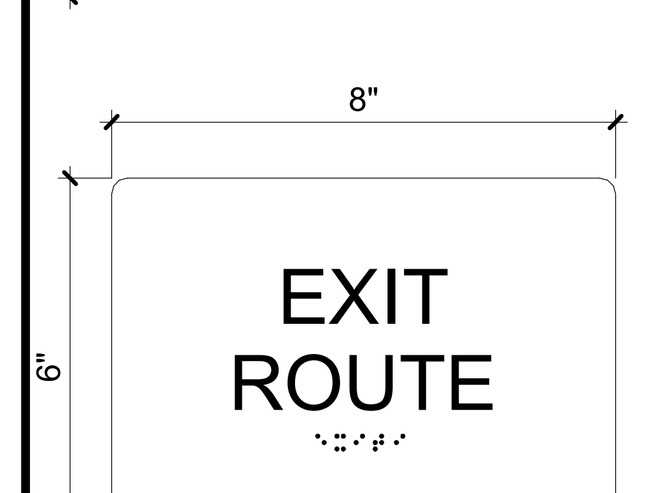
- ACCESSIBLE ENTRY DOORS
- ACCESSIBLE RAMP LANDINGS

CS-E## TYPE: EXIT SIGNS



CS-E01

EXIT SIGN
LOCATE AT GRADE LEVEL EXIT DOORS



CS-E02

EXIT ROUTE SIGN
LOCATE AT:
- EACH ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY
- EACH DOOR THAT LEADS TO A GRADE LEVEL EXIT BY MEANS OF EXIT ENCLOSURE OR EXIT PASSAGEWAY.

CODE SIGNAGE TYPES | E1 | 3" = 1'-0"

GENERAL CODE SIGNAGE NOTES

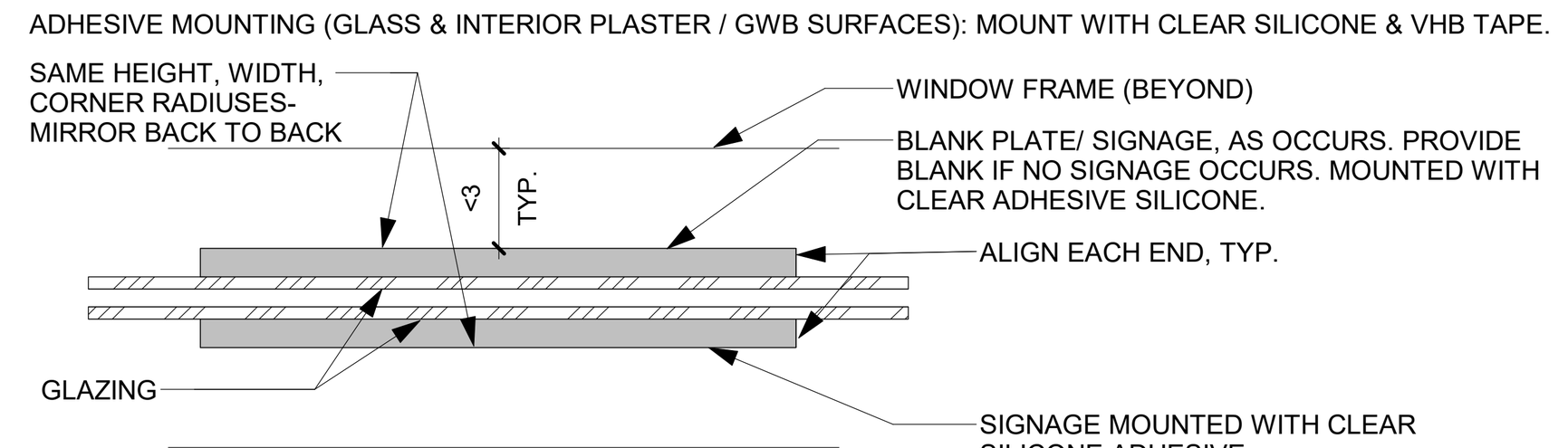
1. NOT ALL SIGN TYPES ILLUSTRATED ON THIS SHEET MAY BE USED ON THIS PROJECT -RE: SIGNAGE PLAN(S).
2. ALL BRAILLE SHOWN IS FOR GRAPHICAL REPRESENTATION ONLY -RE: BRAILLE REQUIREMENTS PER DETAIL A3 / A-800
3. ALL FONT / CHARACTER REQUIREMENTS PER
   A. WITH BRAILLE: A3 / A-800
   B. WITHOUT BRAILLE: C3 / A-800
4. ALL SIGN DIMENSIONS ARE FOR REFERENCE ONLY - SIGN MANUFACTURER SHALL MEET ALL SIGN LETTERING, BRAIL AND PICTOGRAM REQUIREMENTS / SPACING PER THIS SHEET.
5. ALL PICTOGRAMS SHALL MEET REQUIREMENTS PER DETAIL C1 / A-800
6. RE: B1 / A-800 FOR ALL SIGNAGE HEIGHT AND LOCATION REQUIREMENTS FOR TACTILE SIGNS.
7. THE SIGNAGE TYPES SHOWN IN THESE DIAGRAMS ARE INTENDED TO ILLUSTRATE THE MINIMUM CODE REQUIREMENTS PER CBC 2025. CONTRACTOR SHALL MATCH THE FACILITY DESIGN REQUIREMENTS - VERIFY WITH BUILDING OWNER PRIOR TO FABRICATION.
8. ALL SIGNS TO BE ATTACHED TO VERTICAL SURFACE PER DETAIL: D1 / A-800
9. SIGN MATERIAL SHALL BE 1/4" THICK PLASTIC WITH 1/32" RAISED LETTERS - RE: FONT / LETTER REQUIREMENTS.
10. ALL RESTROOM SIGNAGE TO MEET REQUIREMENTS SET FORTH IN DETAIL A1 / A-800
11. OCCUPANT LOAD SIGNS SHALL COMPY WITH CBC SECTION 1004.3: EVERY ROOM OR SPACE WHICH IS USED FOR ASSEMBLY, CLASSROOM, DINING, DRINKING OR SIMILAR PURPOSES HAVING AN OCCUPANT LOAD OF 50 OR MORE SHALL HAVE THE OCCUPANT LOAD OF THE ROOM OR SPACE POSTED IN A CONSPICUOUS PLACE, NEAR THE MAIN EXIT OR EXIT ACCESS DOORWAY FROM THE ROOM OR SPACE. POSTED SIGNS SHALL BE APPROVED LEGIBLE PERMANENT DESIGN AND SHALL BE MAINTAINED BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT.
12. ALL STAIR SIGNAGE SHALL MEET CBC SECTIONS 1023.8, 1023.9 AND 1023.9.1.
13. ALL ELEVATOR LOBBIES SHALL PROVIDE IDENTIFICATION SIGNAGE PER CBC SECTION 1023.10
14. REFER TO ELEVATOR SHEETS FOR ADDITIONAL SIGNAGE REQUIREMENTS (FOR PROJECTS WITH ELEVATORS SCOPE OF WORK).
15. PER CBC SECTION 1009.9; SIGNAGE INDICATING SPECIAL ACCESSIBILITY PROVISIONS SHALL BE PROVIDED AS SHOWN:
    A. EACH DOOR PROVIDING ACCESS TO AN AREA OF REFUGE FROM AN ADJACENT FLOOR AREA SHALL BE IDENTIFIED BY A SIGN STATING: “AREA OF REFUGE”.
    B. EACH DOOR PROVIDING ACCESS TO AN EXTERIOR AREA FOR ASSISTED RESCUE SHALL BE IDENTIFIED BY A SIGN STATING: “EXTERIOR AREA FOR ASSISTED RESCUE”.
    C. SIGNAGE SHALL COMPLY WITH CHAPTER 11A, SECTION 1143A AND CHAPTER 11B, SECTION 11B-703.5 AS APPLICABLE, REQUIREMENTS FOR VISUAL CHARACTERS AND INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY COMPLYING WITH CHAPTER 11B, SECTION 11B-703.7.2.1. WHERE EXIT SIGN ILLUMINATION IS REQUIRED BY SECTION 1011.3, THE SIGNS SHALL BE ILLUMINATED. ADDITIONALLY, VISUAL CHARACTERS, RAISED CHARACTER AND BRAILLE SIGNAGE COMPLYING WITH CHAPTER 11A., SECTION 1143A AND CHAPTER 11B, SECTIONS 11B-703.1, 11B-7-3.2, 11B-703.3 AND 11B-703.5 SHALL BE LOCATED AT EACH DOOR TO AN AREA OF REFUGE AND EXTERIOR AREA FOR ASSISTED RESCUE IN ACCORDANCE WITH SECTION 1013.4. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL COMPLY WITH CHAPTER 11A, SECTION 1143A COMPLYING WITH CHAPTER 11B, SECTION 11B-703.7.2.1.
16. DIRECTIONAL SIGNAGE COMPLYING WITH CHAPTER 11B, SECTION 11B-703.5 INDICATING THE LOCATION OF THE OTHER MEANS OF EGRESS AND WHICH OF THOSE ARE ACCESSIBLE MEANS OF EGRESS SHALL BE PROVIDED AT THE FOLLOWING:
    A. AT EXITS SERVING A REQUIRED ACCESSIBLE SPACE BUT NOT PROVIDING AN APPROVED ACCESSIBLE MEANS OF EGRESS.
    B. AT ELEVATOR LANDINGS.
    C. WITHIN AREAS OF REFUGE
17. RAISED CHARACTER AND BRAILLE EXIT SIGNS SHALL MEET REQUIREMENTS OF CBC SECTION 1013.4. AND SHALL BE LOCATED AT THE FOLLOWING LOCATIONS:
    A. EACH GRADE-LEVEL EXTERIOR EXIT DOOR THAT IS REQUIRED TO COMPLY WITH SECTION 1013.1, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORD, “EXIT”.
    B. EACH EXIT DOOR THAT IS REQUIRED TO COMPLY WITH SECTION 1013.1, AND THAT LEADS DIRECTLY TO A GRADE-LEVEL EXTERIOR EXIT BY MEANS OF A STAIRWAY OR RAMP SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE FOLLOWING WORDS AS APPROPRIATE:
       1. 2.1. “EXIT STAIR DOWN”
       2. 2.2. “EXIT RAMP DOWN”
       3. 2.3. “EXIT STAIR UP”
       4. 2.4. “EXIT RAMP UP”
    C. EACH DOOR THAT IS REQUIRED TO COMPLY WITH SECTION 1013.1 AND THAT LEADS DIRECTLY TO A GRADE - LEVEL EXTERIOR EXIT BY MEANS OF AN EXIT PASSAGE WAY SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS, “EXIT ROUTE”
    D. EACH EXIT ACCESS DOOR FROM AN INTERIOR ROOM OR AREA TO A CORRIDOR OR HALLWAY THAT IS REQUIRED TO COMPLY WITH SECTION 1013.1, SHALL BE IDENTIFIED BY A TACTILE EXIT SIGN WITH THE WORDS “EXIT ROUTE”.
    E. EACH EXIT DOOR THROUGH A HORIZONTAL EXIT THAT IS REQUIRED TO COMPLY WITH SECTION 1013.1, SHALL BE IDENTIFIED BY A SIGN WITH THE WORDS, “TO EXIT”.
18. ALL FIRE RISER ROOM DOOR SIGNAGE SHALL MEET THE REQUIREMENTS OF CBC SECTION 905.7.1.

CODE SIGNAGE NOTES | D3 | 3" = 1'-0"

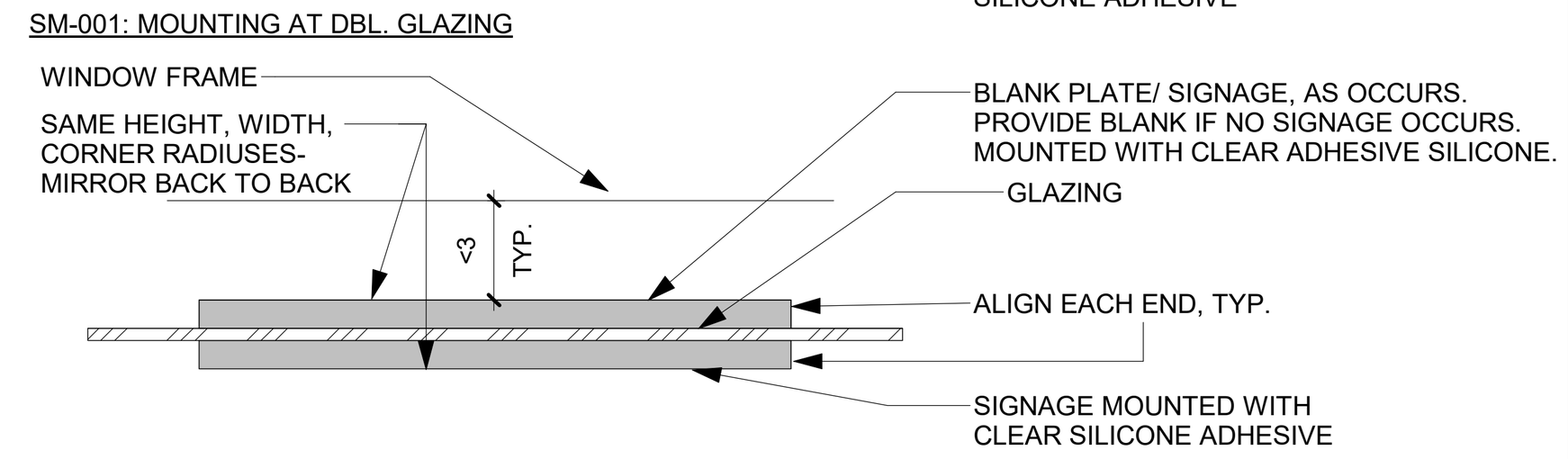
NOTE:
PROVIDE SPACES AS NEEDED SO SIGNAGE IS WITHIN 3" OF WINDOW FRAME

MECHANICAL MOUNTING (MASONRY, STUCCO & CONCRETE SURFACES): MOUNT WITH COUNTERSUNK. VANDAL RESISTANT #8 FASTENERS.

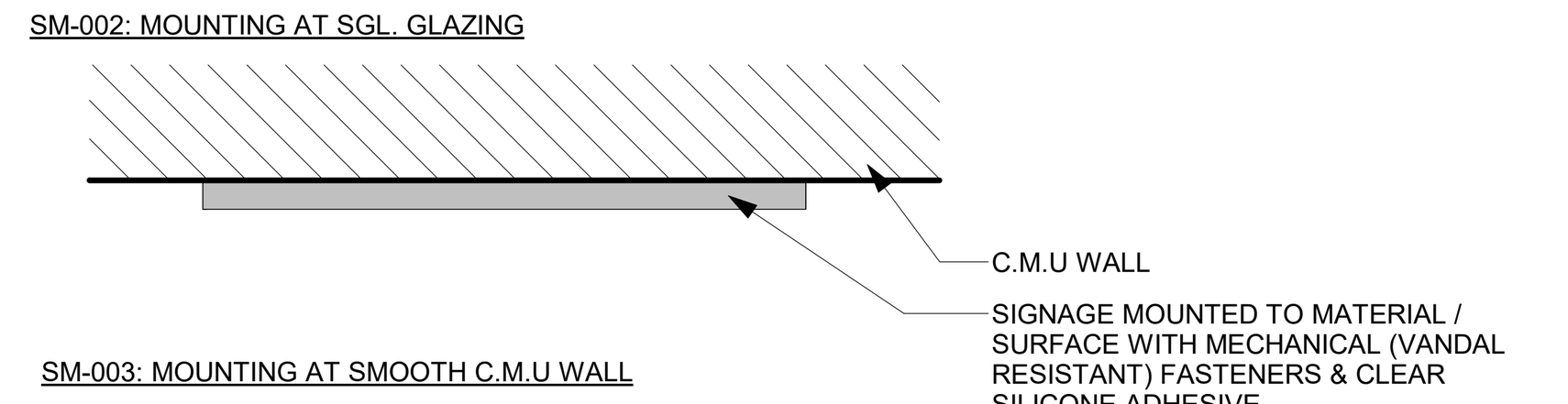
ADHESIVE MOUNTING (GLASS & INTERIOR PLASTER / GWB SURFACES): MOUNT WITH CLEAR SILICONE & VHB TAPE.



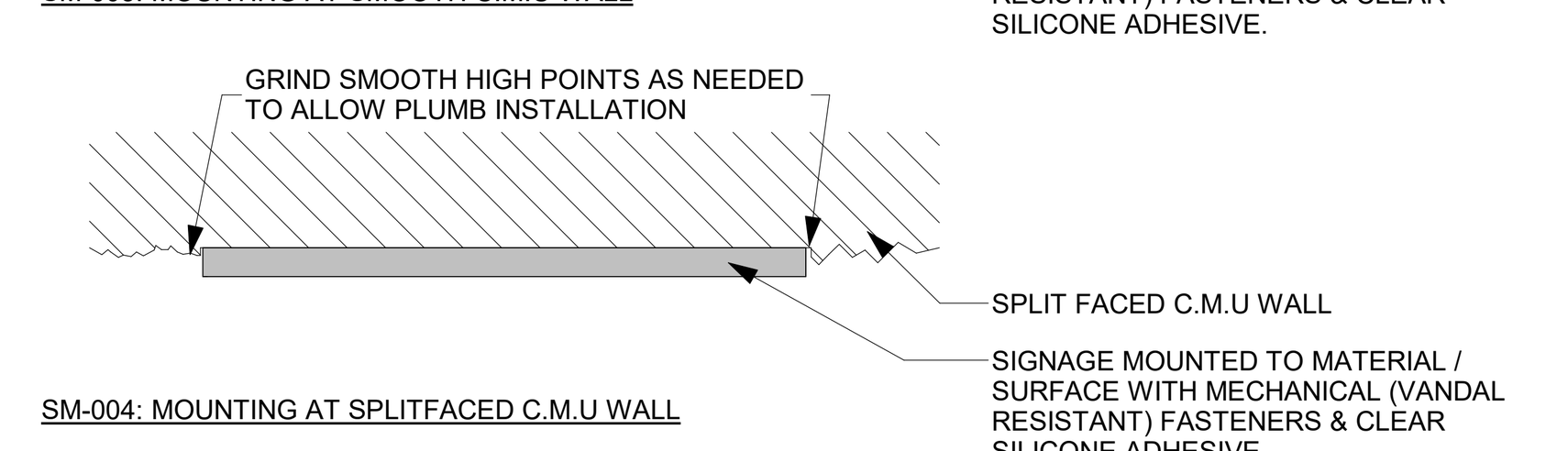
SM-001: MOUNTING AT DBL. GLAZING



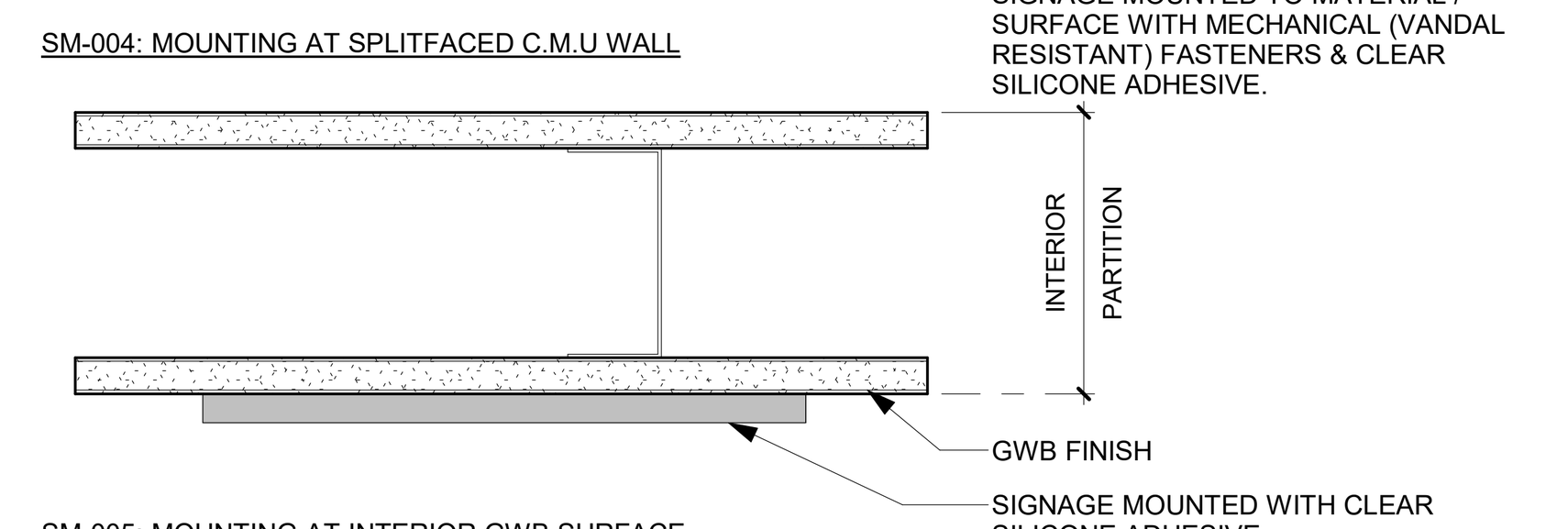
SM-002: MOUNTING AT SGL. GLAZING



SM-003: MOUNTING AT SMOOTH C.M.U WALL



SM-004: MOUNTING AT SPLITFACED C.M.U WALL



SM-005: MOUNTING AT INTERIOR GWB SURFACE

ADA-SIGNAGE:SIGN MOUNTING DETAILS | D1 | 3" = 1'-0"

11B-703.5 VISUAL CHARACTERS. VISUAL CHARACTERS SHALL COMPLY WITH SECTION 11B-703.5.

EXCEPTION: WHERE VISUAL CHARACTERS COMPLY WITH SECTION 11B-703.2 AND ARE ACCOMPANIED BY BRAILLE COMPLYING WITH SECTION 11B-703.3, THEY SHALL NOT BE REQUIRED TO COMPLY WITH SECTIONS 11B-703.5.2 THROUGH 11B-703.5.6, 11B-703.5.8 AND 11B-703.5.9

11B-703.5.1 FINISH AND CONTRAST. CHARACTERS AND THEIR BACKGROUND SHALL HAVE A NON-GLARE FINISH. CHARACTERS SHALL CONTRAST WITH THEIR BACKGROUND WITH EITHER LIGHT CHARACTERS ON A DARK BACKGROUND OR DARK CHARACTERS ON A LIGHT BACKGROUND.

11B-703.5.2 CASE. CHARACTERS SHALL BE UPPERCASE OR LOWERCASE OR A COMBINATION OF BOTH.

11B-703.5.3 STYLE. CHARACTERS SHALL BE CONVENTIONAL IN FORM. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS.

11B-703.5.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.5.5 CHARACTER HEIGHT. MINIMUM CHARACTER HEIGHT SHALL COMPLY WITH TABLE 11B-703.5.5. VIEWING DISTANCE SHALL BE MEASURED AS THE HORIZONTAL DISTANCE BETWEEN THE CHARACTER AND AN OBSTRUCTION PREVENTING FURTHER APPROACH TOWARDS THE SIGN. CHARACTER HEIGHT SHALL BE BASED ON THE UPPERCASE LETTER "I".

EXCEPTION: WHERE PROVIDED, FLOOR PLANS PROVIDING PROCEDURES INFORMATION IN ACCORDANCE WITH TITLE 19 SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.5.5.

TABLE 11B-703.5.5 VISUAL CHARACTER HEIGHT

HEIGHT TO FINISH FLOOR OR GROUND FROM BASELINE OF CHARACTER	HORIZONTAL VIEWING DISTANCE	MINIMUM CHARACTER HEIGHT
40 INCHES (1016 MM) TO LESS THAN OR EQUAL TO 70 INCHES (1778 MM)	LESS THAN 72 INCHES (1829MM)	5/8 INCH (15.9 MM)
	72 INCHES (1829 MM) AND GREATER	5/8 INCH (15.9 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 72 INCHES (1829 MM)
GREATER THAN 70 INCHES (1778 MM) TO LESS THAN OR EQUAL TO 120 INCHES (3048 MM)	LESS THAN 180 INCHES (4572 MM)	2 INCHES (51 MM)
	180 INCHES (4572 MM) AND GREATER	2 INCHES (51 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 180 INCHES (4572 MM)
GREATER THAN 120 INCHES (3048 MM)	LESS THAN 21 FEET (6401 MM)	3 INCHES (76 MM)
	21 FEET (6401 MM) AND GREATER	3 INCHES (76 MM), PLUS 1/8 INCH (3.2 MM) PER FOOT (305 MM) OF VIEWING DISTANCE ABOVE 21 FEET (6401 MM)

11B-703.5.6 HEIGHT FROM FINISH FLOOR OR GROUND. VISUAL CHARACTERS SHALL BE 40 INCHES (1016 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND.

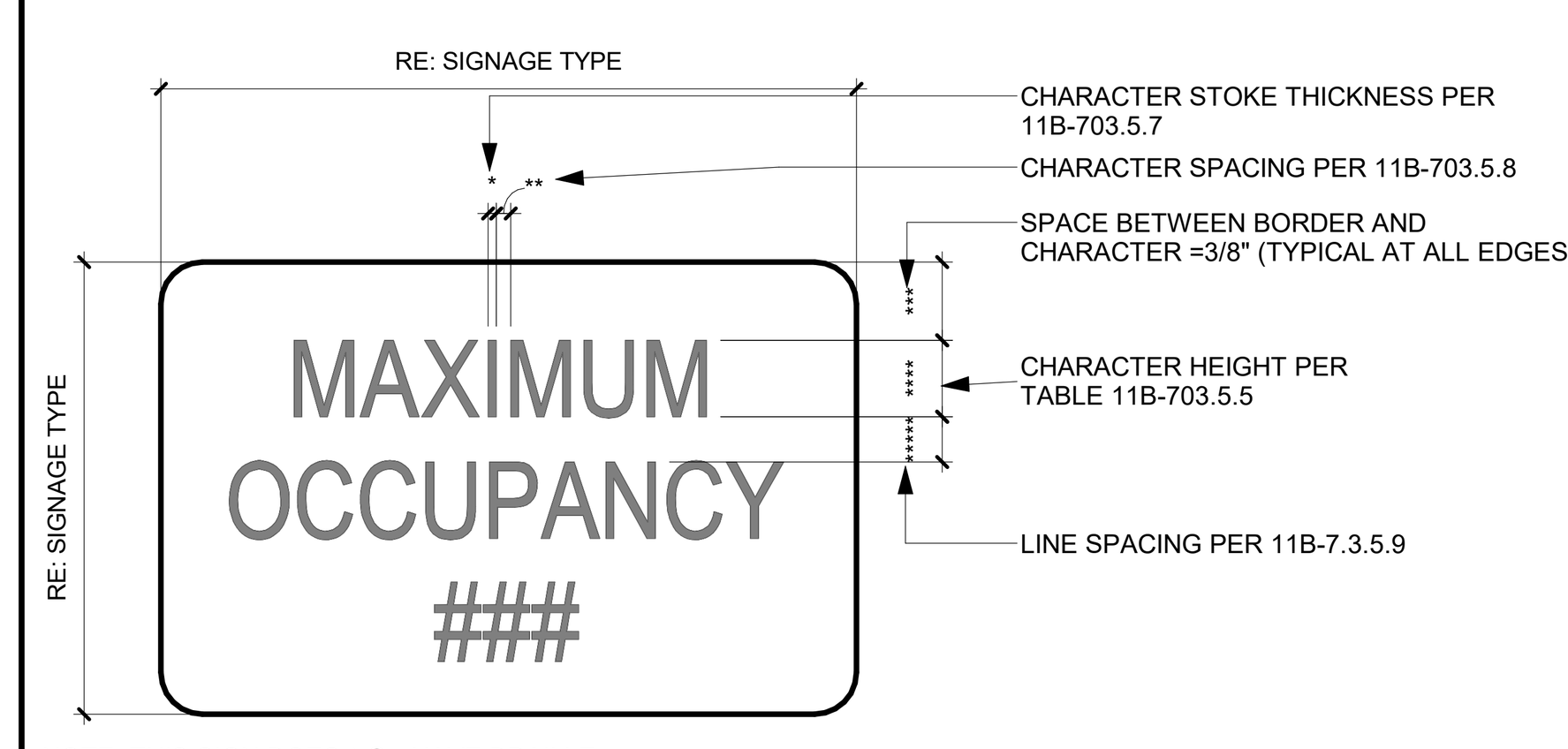
EXCEPTIONS:
1. VISUAL CHARACTERS INDICATING ELEVATOR CAR CONTROLS SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.5.6.
2. FLOOR-LEVEL EXIT SIGNS COMPLYING WITH CHAPTER 10, SECTION 1013.7 SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.5.6.
3. WHERE PROVIDED, FLOOR PLANS PROVIDING EMERGENCY PROCEDURES INFORMATION IN ACCORDANCE WITH TITLE 19 SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.5.6.

11B-703.5.7 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 10 PERCENT MINIMUM AND 30 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

11B-703.5.8 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT CHARACTERS, EXCLUDING WORD SPACES. SPACING BETWEEN INDIVIDUAL CHARACTERS SHALL BE 10 PERCENT MINIMUM AND 35 PERCENT MAXIMUM OF CHARACTER HEIGHT.

11B-703.5.9 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE CHARACTER HEIGHT.

11B-703.5.10 FORMAT. TEXT SHALL BE IN A HORIZONTAL FORMAT.



NOTE: THIS SIGN DOES **NOT** HAVE BRAILLE
SIGN EXAMPLE MEETING THIS CODE SECTION

ADA SIGNAGE: VISUAL CHARACTERS | C3 | 6" = 1'-0"

11B-703.6 PICTOGRAMS. PICTOGRAMS SHALL COMPLY WITH SECTION 11B-703.6.

11B-703.6.1 PICTOGRAM FIELD. PICTOGRAMS SHALL HAVE A FIELD HEIGHT OF 6 INCHES (152 MM) MINIMUM. CHARACTERS AND BRAILLE SHALL NOT BE LOCATED IN THE PICTOGRAM FIELD.

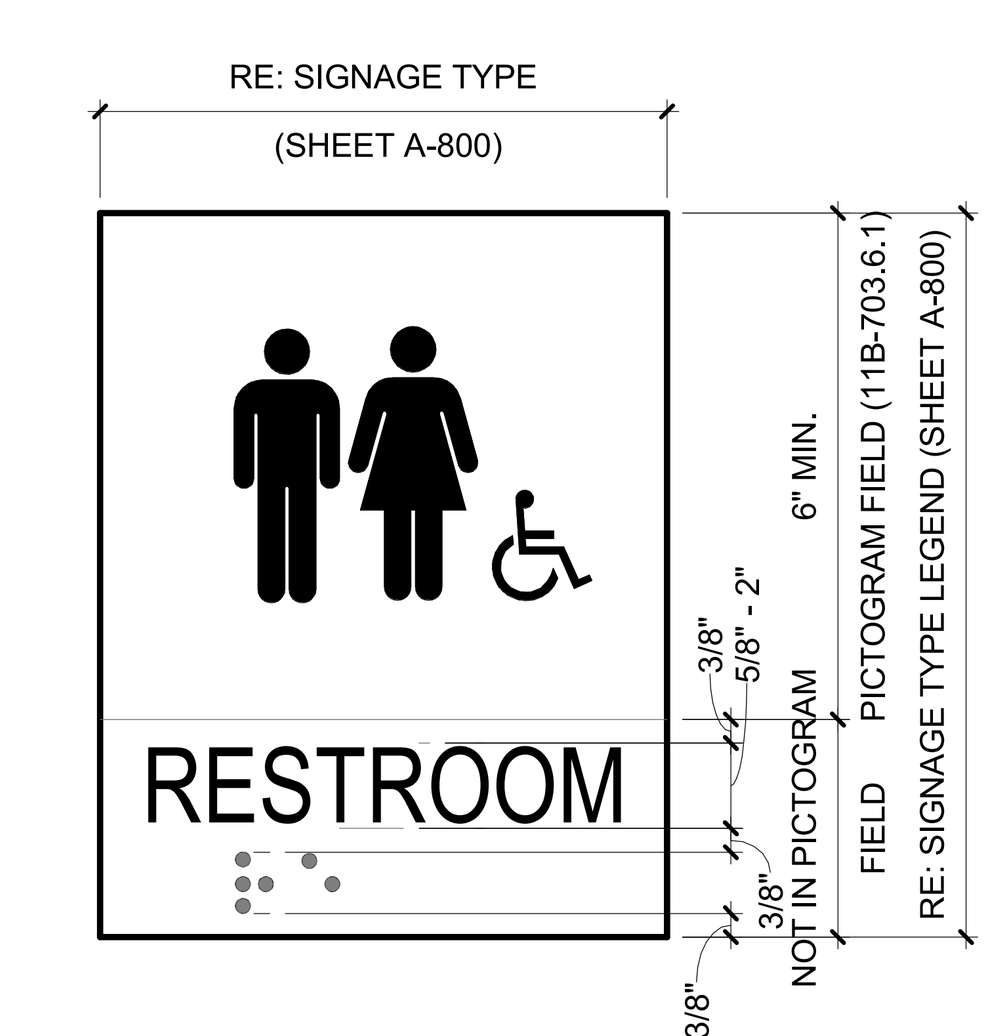


FIGURE 11B-703.6.1 PICTOGRAM FIELD

11B-703.6.2 FINISH AND CONTRAST. PICTOGRAMS AND THEIR FIELD SHALL HAVE A NON-GLARE FINISH. PICTOGRAMS SHALL CONTRAST WITH THEIR FIELD WITH EITHER A LIGHT PICTOGRAM ON A DARK FIELD OR A DARK PICTOGRAM ON A LIGHT FIELD.

11B-703.6.3 TEXT DESCRIPTORS. PICTOGRAMS SHALL HAVE TEXT DESCRIPTORS LOCATED DIRECTLY BELOW THE PICTOGRAM FIELD. TEXT DESCRIPTORS SHALL COMPLY WITH SECTIONS 11B-703.2, 11B-703.3 AND 11B-703.4.

ADA SIGNAGE:PICTOGRAM REQUIREMENTS | C1 | 3" = 1'-0"

11B-703.4 INSTALLATION HEIGHT AND LOCATION. SIGNS WITH TACTILE CHARACTERS SHALL COMPLY WITH SECTION 11B-703.4.

11B-703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND. TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48 INCHES (1219 MM) MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLSAND 60 INCHES (1524 MM) MAXIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE, MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.

EXCEPTION: TACTILE CHARACTERS FOR ELEVATOR CAR CONTROLS SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.4.1.

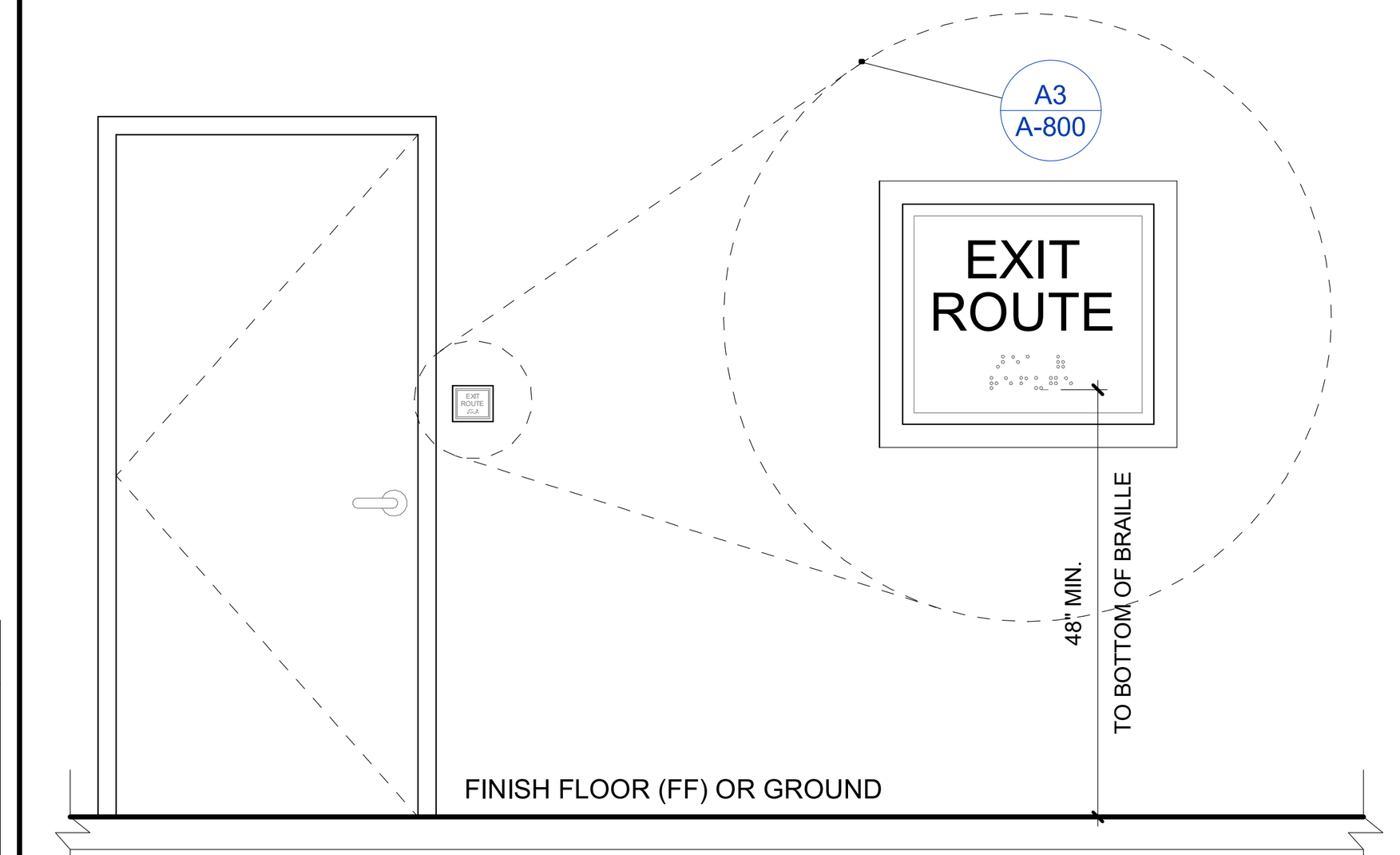


FIGURE 11B-703.4.1 HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND

11B-703.4.2 LOCATION. WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18 INCHES (457 MM) MINIMUM BY 18 INCHES (457 MM) MINIMUM, CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION. WHERE PROVIDED, SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL BE LOCARED AT THE ENTRACE TO, AND OUTSIDE OF THE ROOM OR SPACE. WHERE PROVIDED, SIGNS IDENTIFYING EXITS SHALL BE LOCATED AT THE EXIT DOOR WHEN APPROACHED IN THE DIRECTION OF EGRESS TRAVEL.

EXCEPTION: IN ALTERATIONS WHERE SIGN INSTALLATION LOCATIONS IDENTIFIED IN SECTION 11B-703.4.2 ARE OBSTRUCTED OR OTHERWISE UNAVAILABLE FOR SIGN INSTALLATION, SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.

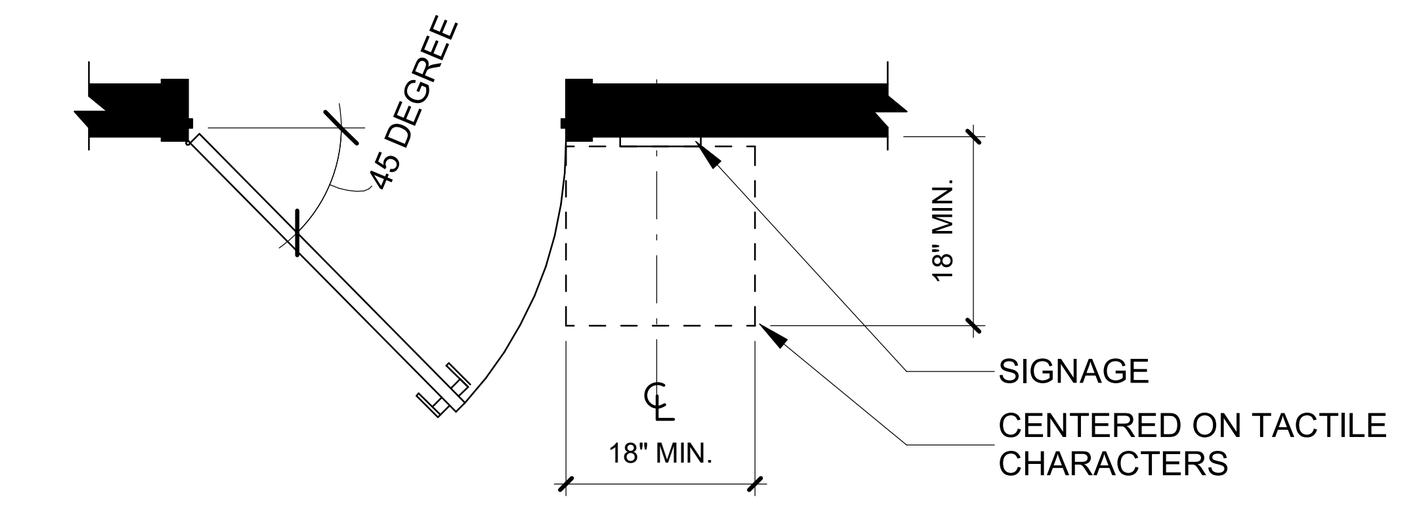
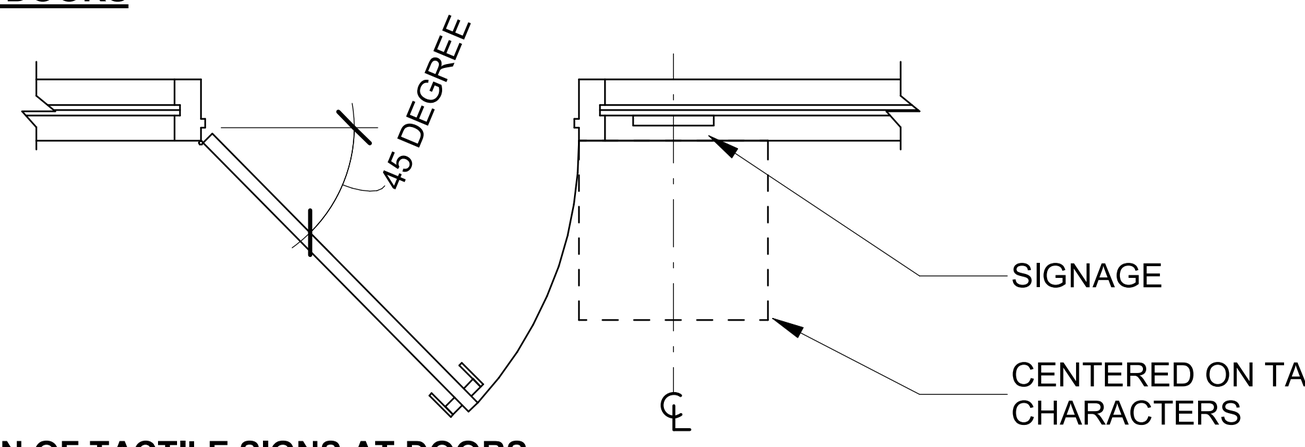
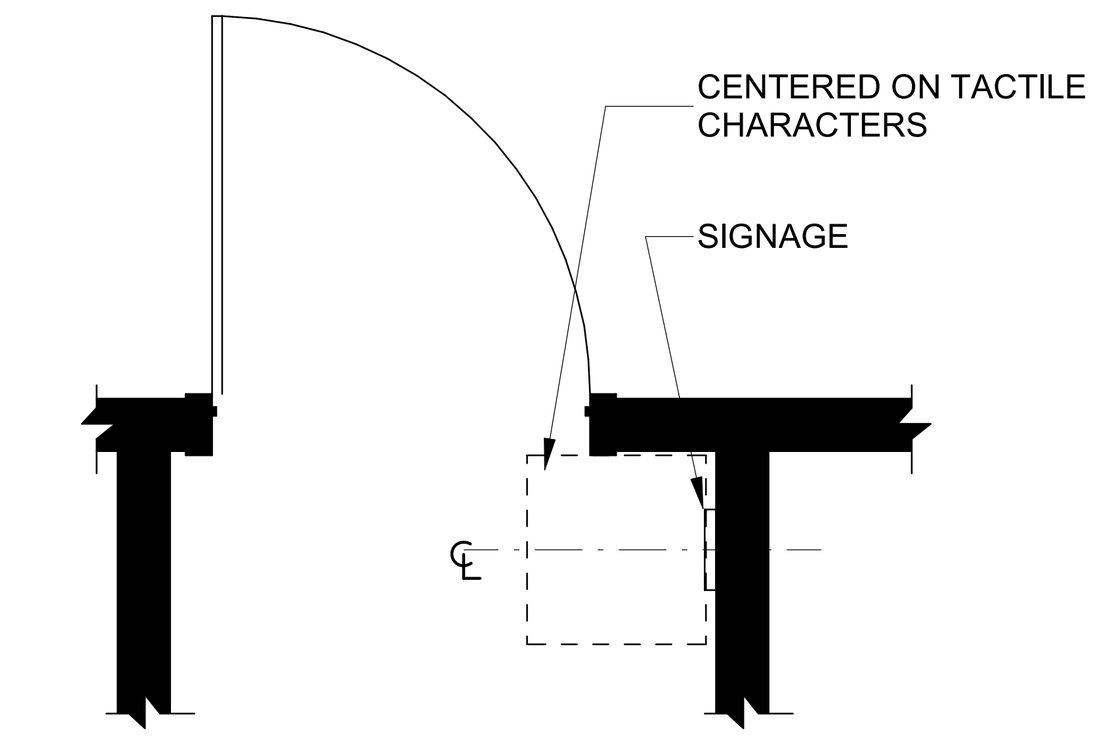


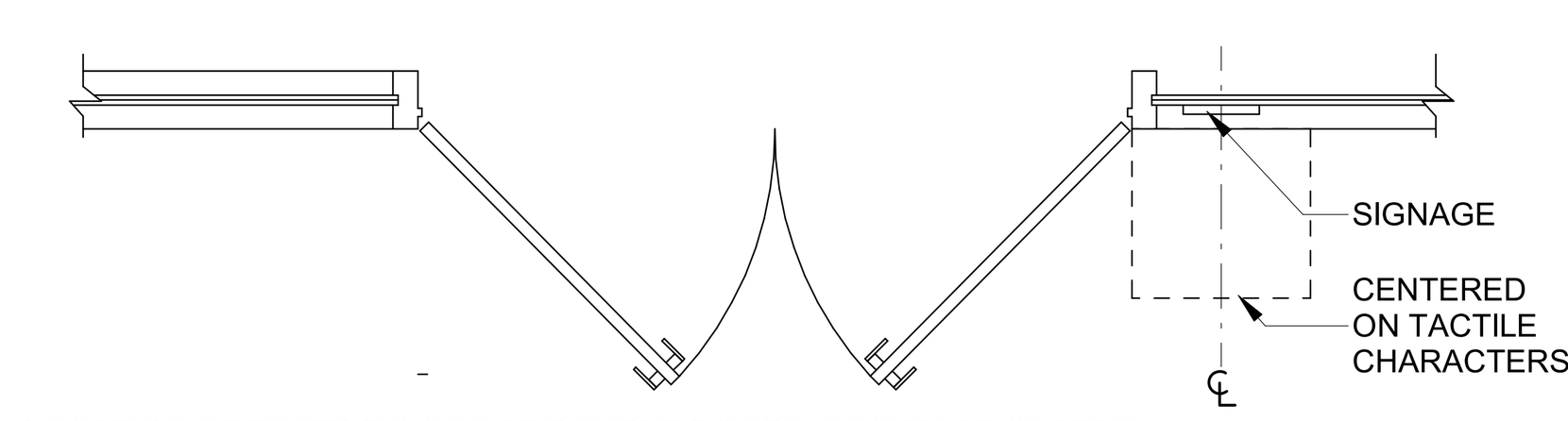
FIGURE 11B-703.4.2 LOCATION OF TACTILE SIGNS AT DOORS



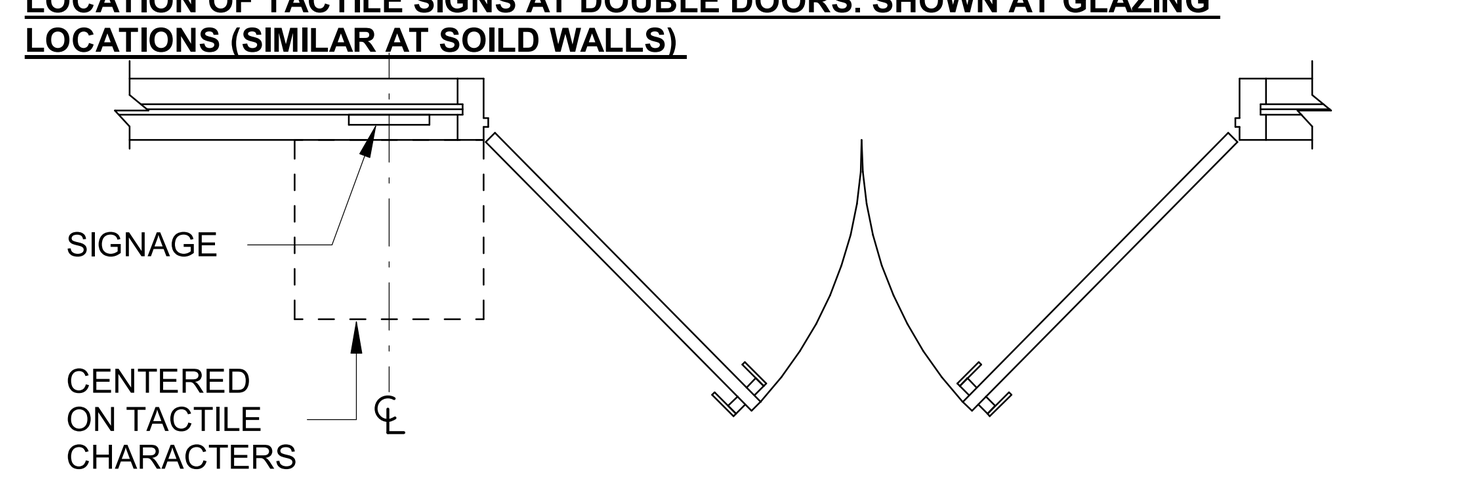
LOCATION OF TACTILE SIGNS AT DOORS IN GLAZING SYSTEM



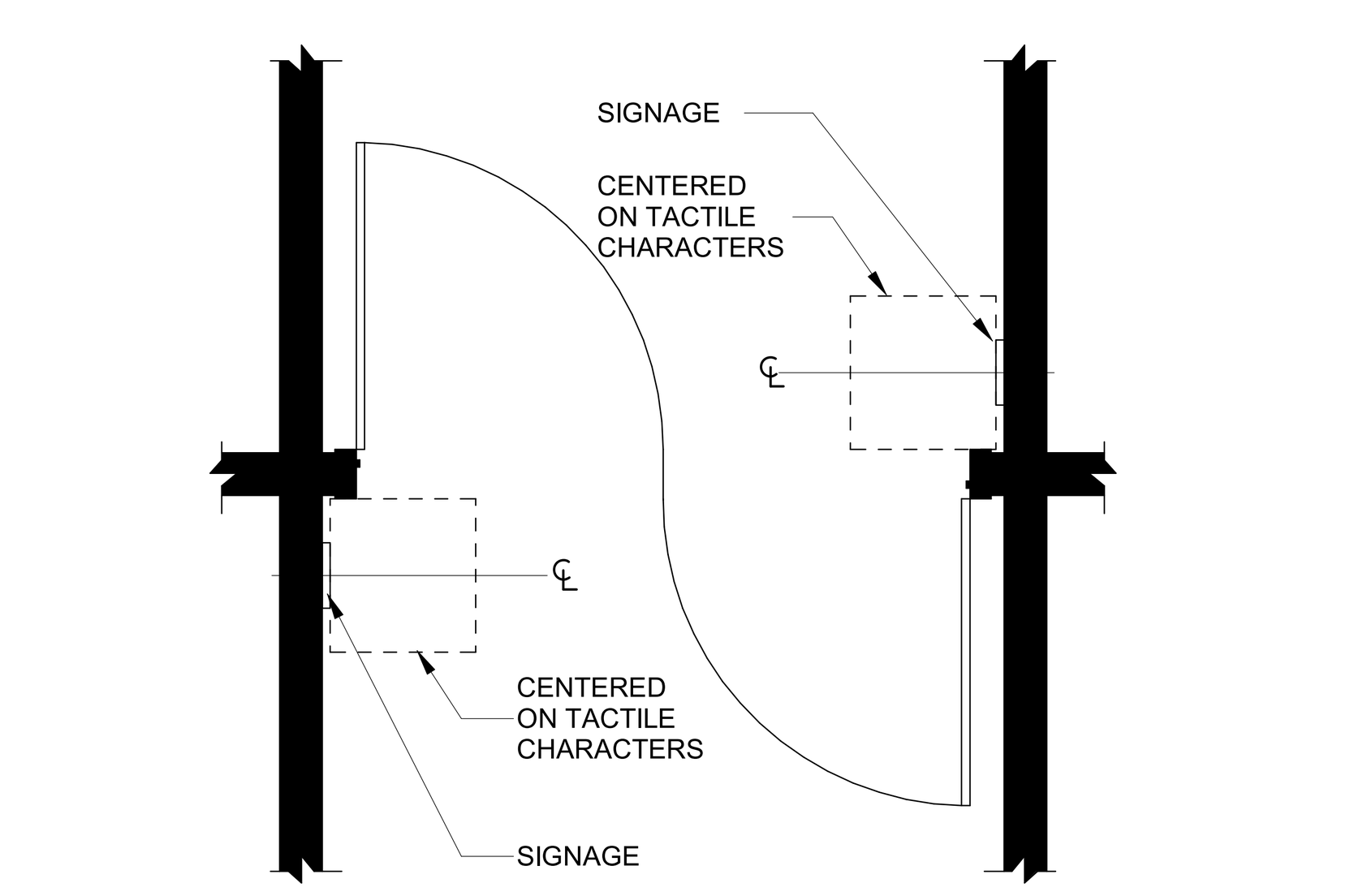
LOCATION OF TACTILE SIGNS AT DOORS IN CORRIDOR WITH LESS THAN 18" CLEAR AT JAMB SIDE.



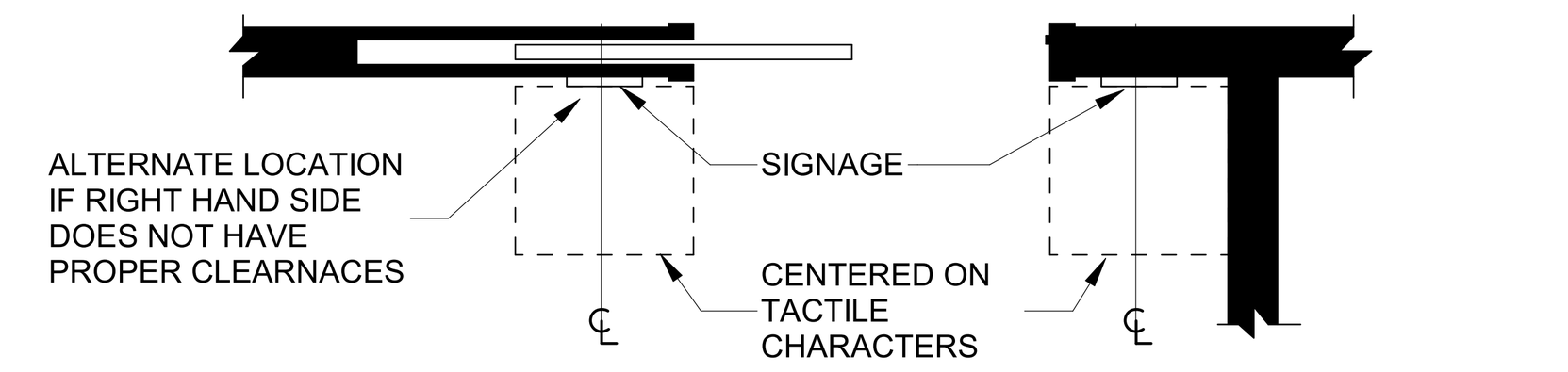
LOCATION OF TACTILE SIGNS AT DOUBLE DOORS. SHOWN AT GLAZING LOCATIONS (SIMILAR AT SOILD WALLS)



OPTIONAL LOCATION OF TACTILE SIGNS AT DOUBLE DOORS WHEN SIGN CANNOT BE MOUNTED ON RIGHT HAND SIDE. SHOWN AT GLAZING LOCATIONS (SIMILAR AT SOILD WALLS)



LOCATION(S) OF TACTILE SIGNS AT DOUBLE EGRESS DOORS



LOCATION(S) OF TACTILE SIGNS AT POCKET AND BARN DOORS

ADA SIGNAGE: INSTALLATION HEIGHT & LOCATION | B1 | 1/2" = 1'-0"

11B 701.1 SCOPE.
THE PROVISIONSOF DIVISION 7 SHALL APPLY WHERE REQUIRED OR REFERENCED BY DIVISION 2 OR WHERE REFERENCED BY A REQUIREMENTS IN THIS CHAPTER.

11B-703 SIGNS

11B-703.1 GENERAL. SIGNS SHALL COMPLY WITH SECTION 11B-703. WHERE BOTH VISUAL AND TACTILE CHARACTERS ARE REQUIRED, EITHER ONE SIGN WITH BOTH VISUAL AND TACTILE CHARACTERS, OR TWO SEPARATE SIGNS, ONE WITH VISUAL, AND ONE WITH TACTILE CHARACTERS, SHALL BE PROVIDED.

11B-703.2 RAISED CHARACTERS. RAISED CHARACTERS SHALL COMPLY WITH SECTION 11B-703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH 11B-703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDANCE WITH 11B-703.4.

11B-703.2.1 DEPTH. RAISED CHARACTERS SHALL BE 1/32 INCH (0.8 MM) MINIMUM ABOVE THEIR BACKGROUND.

11B-703.2.2 CASE. CHARACTERS SHALL BE UPPERCASE.

11B-703.2.3 STYLE. CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSUAL FORMS.

11B-703.2.4 CHARACTER PROPORTIONS. CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60 PERCENT MINIMUM AND 110 PERCENT MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

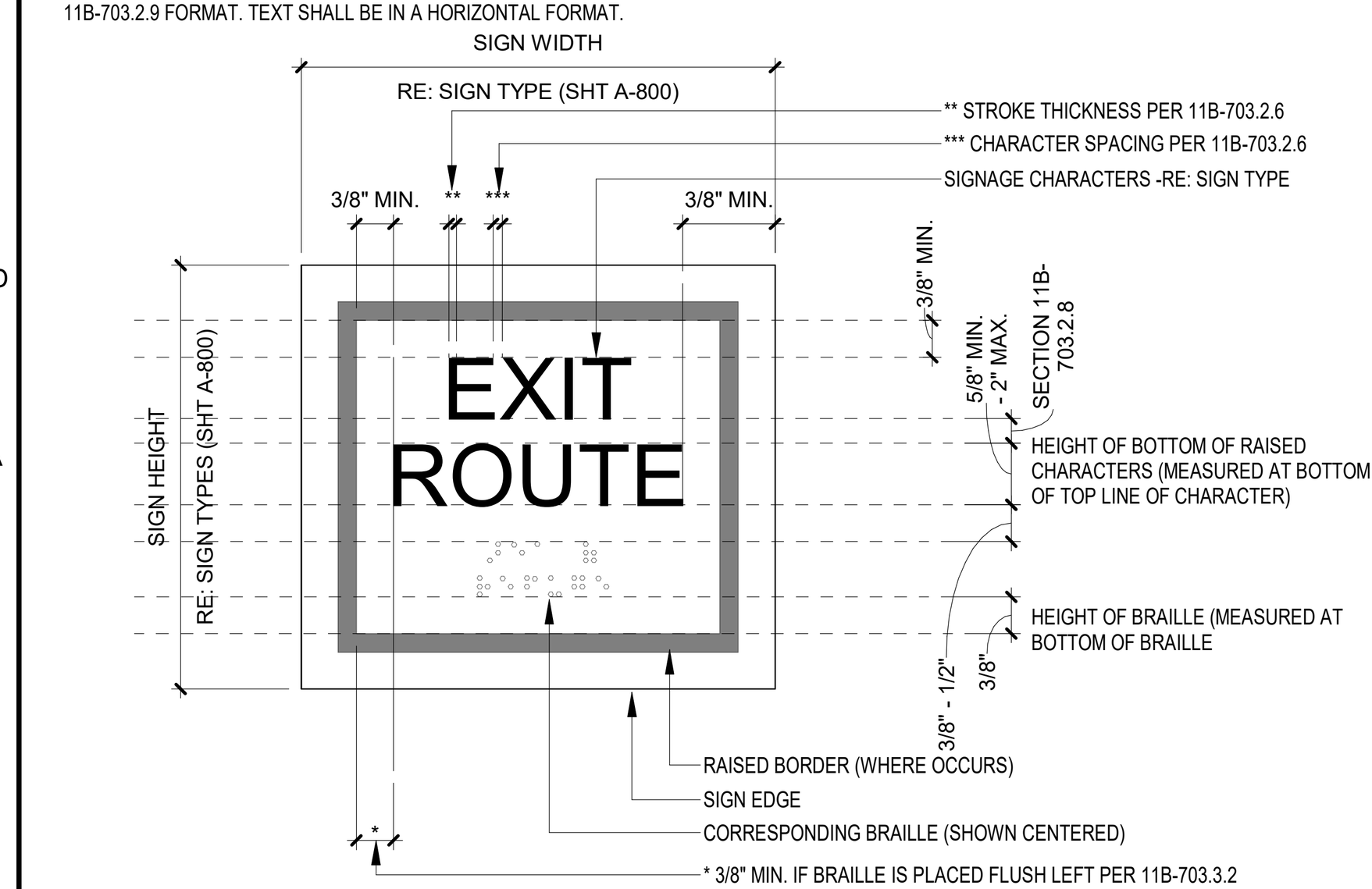
11B-703.2.5 CHARACTER HEIGHT. CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8 INCH (16 MM) MINIMUM AND 2 INCHES (51 MM) MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.2.6 STROKE THICKNESS. STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15 PERCENT MAXIMUM OF THE HEIGHT OF THE CHARACTER.

11B-703.2.7 CHARACTER SPACING. CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM. WHERE CHARACTERS HAVE OTHER CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/16 INCH (1.6 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE BASE OF THE CROSS SECTIONS, AND 1/8 INCH (3.2 MM) MINIMUM AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE TOP OF THE CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8 INCH (9.5 MM) MINIMUM.

11B-703.2.8 LINE SPACING. SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135 PERCENT MINIMUM AND 170 PERCENT MAXIMUM OF THE RAISED CHARACTER HEIGHT.

11B-703.2.9 FORMAT. TEXT SHALL BE IN A HORIZONTAL FORMAT.



- RAISED CHARACTERS & SIGN FIELD TO HAVE NON-GLARE FINISH.
- SIGN FIELD TO BE CONTRASTING COLORS, EITHER LIGHT ON DARK OR DARK ON LIGHT. RE: GENERAL NOTES FOR ADDITIONAL COLOR COORDINATION.

11B-703.3 BRAILLE. BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH SECTION 11B-703.3 AND 11B-703.4.

11B-703.3.1 DIMENSIONS AND CAPITALIZATION. BRAILLE DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 11B-703.3.1. THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS.

11B-703.3.2 POSITION. BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT IN A HORIZONTAL FORMAT, FLUSH LEFT OR CENTERED. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8 INCH (9.5 MM) MINIMUM AND 1/2 INCH (12.7 MM) MAXIMUM FROM ANY OTHER TACTILE CHARACTERS AND 3/8 INCH (9.5 MM) MINIMUM FROM RAISED BORDERS AND DECORATIVE ELEMENTS.

EXCEPTION: BRAILLE PROVIDED ON ELEVATOR CAR CONTROLS SHALL BE SEPARATED 3/16 INCH (4.8 MM) MINIMUM AND SHALL BE LOCATED EITHER DIRECTLY BELOW OR ADJACENT TO THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS.

TABLE 11B-703.3.1 BRAILLE DIMENSIONS

TAG	MEASUREMENT RANGE	MINIMUM IN INCHES TO MAXIMUM IN INCHES
A	DOT BASE DIAMETER	0.059 (1.5 MM) TO 0.063 (1.6 MM)
B	DISTANCE BETWEEN TWO DOTS IN THE SAME CELL	0.090 (2.3 MM) TO 0.100 (2.5 MM) MEASRUED CENTER TO CENTER
C	DISTANCE BETWEEN CORRESPONDING DOTS IN THE ADJACENT CELLS	0.241 (6.1 MM) TO 0.300 (7.6 MM) MEASRUED CENTER TO CENTER
D	DOT HEIGHT	0.025 (0.6 MM) TO 0.037 (0.9 MM)
E	DISTANCE BETWEEN CORRESPONDING DOTS FROM ONE CELL DIRECTLY BELOW	0.395 (10 MM) TO 0400 (10.2 MM) MEASURED CENTER TO CENTER

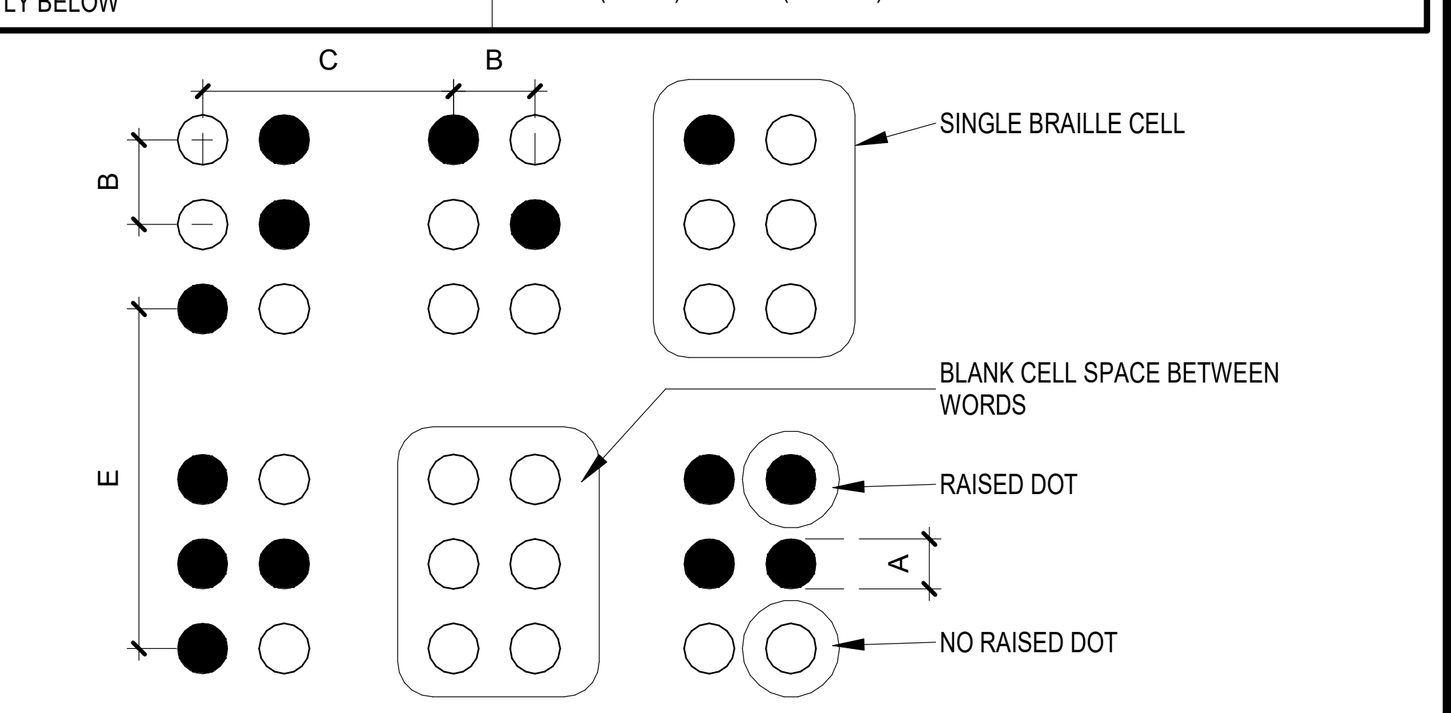
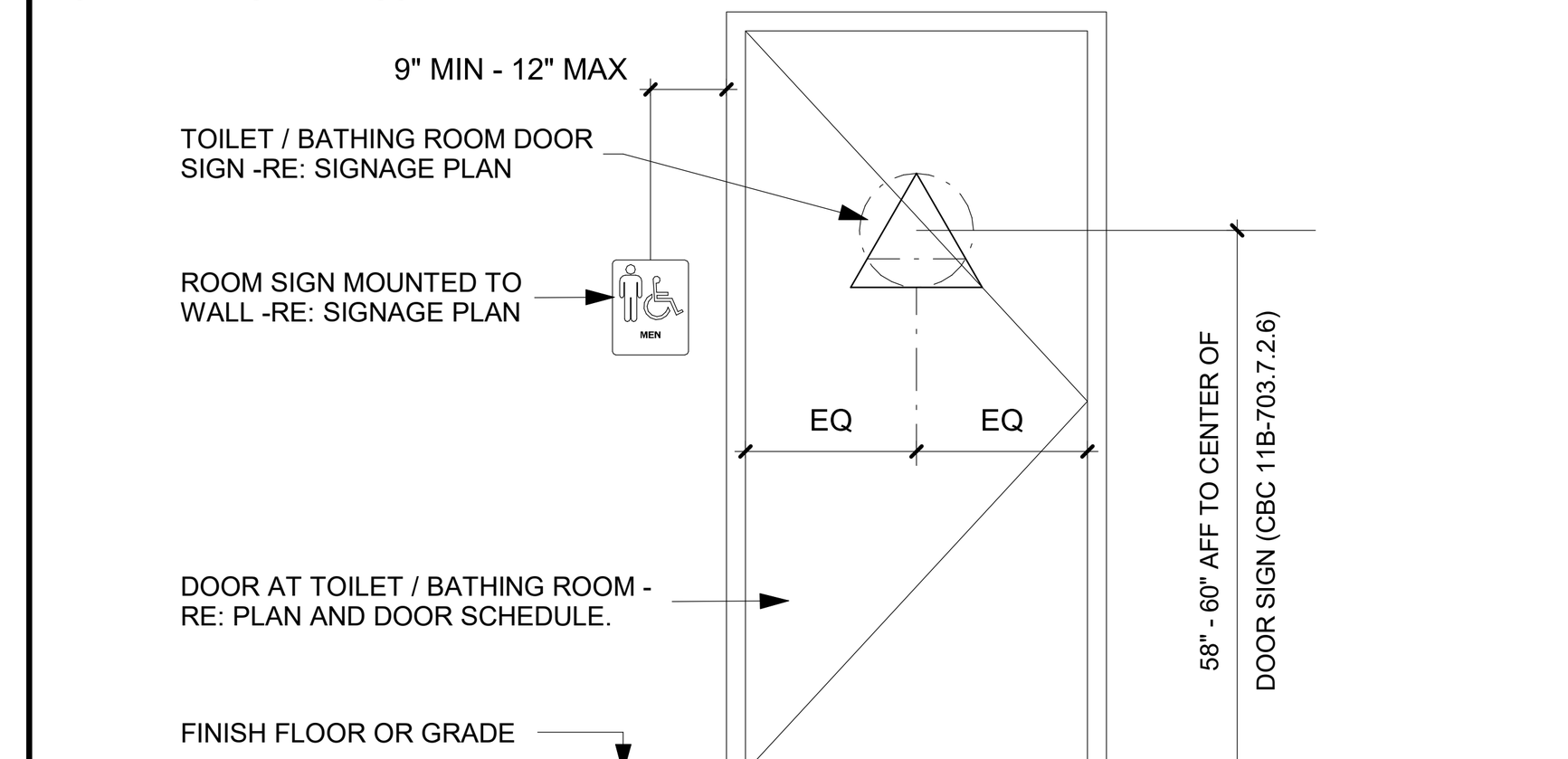


FIGURE 11B-703.3.1 BRAILLE DIMENSIONS

ADA SIGNAGE: CHARACTER & BRAILLE HEIGHT REQUIREMENTS | A3 | 6" = 1'-0"

11B-703.7.2.6 TOILET AND BATHING FACILITIES GEOMETRIC SYMBOLS. GEOMETRIC SYMBOLS AT ENTRANCES TO TOILET AND BATHING FACILITIES SHALL BE MOUNTED 58 INCHES (1473 MM) MINIMUM AND 60 INCHES (1524 MM) MAXIMUM ABOVE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE CENTERLINE OF THE SYMBOL. WHERE A DOOR IS PROVIDED THE SYMBOL SHALL BE MOUNTED WITHIN 1 INCH (25 MM) OF THE VERTICAL CENTERLINE OF THE DOOR.



11B-703.7.2.6.1 MEN'S TOILET AND BATHING FACILITIES. AN EQUILATERAL TRIANGLE, 1/4 INCH (6.4 MM) THICK WITH EDGES12 INCHES (305 MM) LONG AND A VERTEX POINTING UPWARD, SHALL BE LOCATED AT ENTRANCES TO MEN'S TOILET AND BATHING FACILITIES. THE TRIANGLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.

EXCEPTION: WHEN SECURE PERIMETER OF DETENTION AND CORRECTIONAL FACILITIES, GEOMETRIC SYMBOLS SHALL NOT BE REQUIRED TO BE 1/4 INCH (6.4 MM) THICK.

11B-703.7.2.6.2 WOMEN'S TOILET AND BATHING FACILITIES. A CIRCLE, 1/4 INCH (6.4 MM) THICK AND 12 INCHES (305 MM) IN DIAMETER, SHALL BE LOCATED AT ENTRANCES TO WOMEN'S TOILET AND BATHING FACILITIES. THE CIRCLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.

EXCEPTION: WHEN SECURE PERIMETER OF DETENTION AND CORRECTIONAL FACILITIES, GEOMETRIC SYMBOLS SHALL NOT BE REQUIRED TO BE 1/4 INCH (6.4 MM) THICK.

11B-703.7.2.6.3 ALL-GENDER (PREVIOUSLY CALLED UNISEX) TOILET AND BATHING FACILITIES. A CIRCLE, 1/4 INCH (6.4 MM) THICK AND 12 INCHES (305 MM) IN DIAMETER WITH A 1/4 INCH (6.4 MM) THICK TRIANGLE WITH A VERTEX POINTING UPWARD, SUPERIMPOSED ON AND GEOMETRICALLY INSCRIBED WITHIN THE CIRCLE AND WITHIN THE 12-INCH (305 MM) DIAMETER, SHALL BE PROVIDED AT ENTRANCES TO ALL-GENDER (UNISEX / SINGLE-STALL) TOILET AND BATHING FACILITIES. THE VERTICES OF THE TRIANGLE SHALL BE LOCATED 1/4 INCH (6.4 MM) MAXIMUM FROM EDGE OF THE CIRCLE. THE TRIANGLE SYMBOL SHALL CONTRAST WITH THE CIRCLE SYMBOL, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND. THE CIRCLE SYMBOL SHALL CONTRAST WITH THE DOOR, EITHER LIGHT ON A DARK BACKGROUND OR DARK ON A LIGHT BACKGROUND.

EXCEPTION: WHEN SECURE PERIMETER OF DETENTION AND CORRECTIONAL FACILITIES, GEOMETRIC SYMBOLS SHALL NOT BE REQUIRED TO BE 1/4 INCH (6.4 MM) THICK.

11B-703.7.2.6.4 EDGES AND VERTICES ON GEOMETRIC SYMBOLS. EDGES SHALL BE EASED OR ROUNDED AT 1/16 INCH (1.59 MM) MINIMUM, OR CHAMFERED AT 1/8 INCH (3.2 MM) MAXIMUM. VERTICES SHALL BE RADIUSED BETWEEN 1/8 INCH (3.2 MM) MINIMUM AND ¼ INCH (6.4 MM) MAXIMUM.

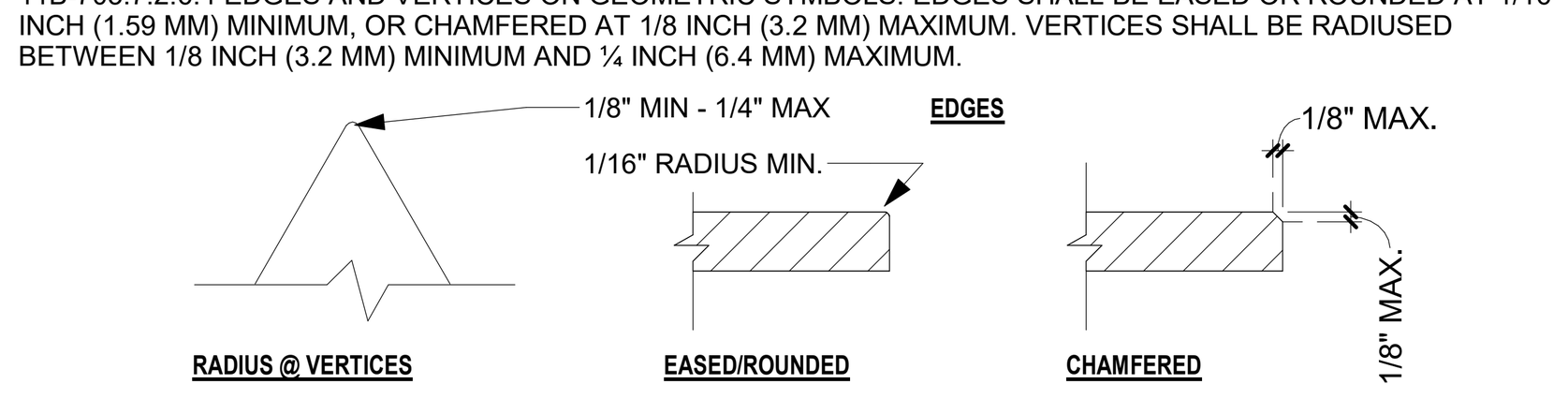


FIGURE 11B-703.7.2.6.4
EDGES & VERTICES ON GEOMETRIC SYMBOLS

ADA-SIGNAGE: TOILET & BATHING SIGN REQUIREMENTS | A1 | 1/2" = 1'-0"

AGENCY APPROVAL

studio+

2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

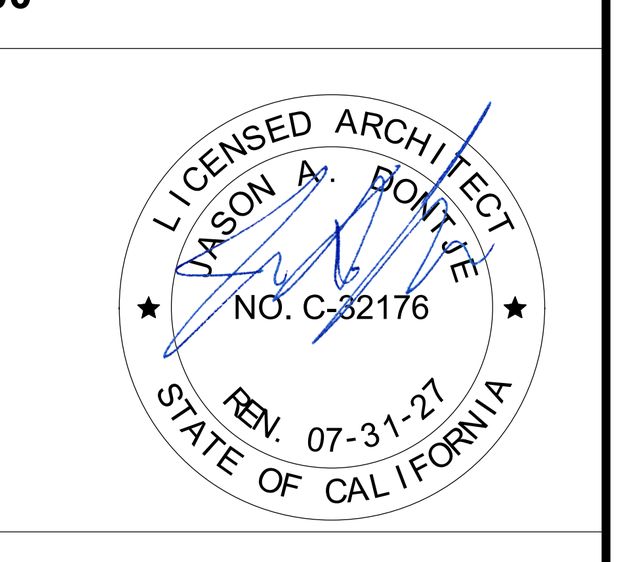
3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

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DATE **10/07/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL



TITLE
CODE (INTERIOR ONLY) SIGNAGE TYPES

SHEET #
A-800

GENERAL NOTES

----- GENERAL NOTES -----

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CALIFORNIA MECHANICAL CODE, 2025 CALIFORNIA BUILDING CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS, INCLUDING 2025 BUILDING ENERGY EFFICIENCY STANDARDS DIVISION T-24.

2. 2025 CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE INCLUDING THE APPLICABLE MANDATORY MEASURES:

 - 5.201.1 CALIFORNIA ENERGY CODE. FOR THE PURPOSES OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY STANDARDS.

 - 5.504.3: COVERING OF DUCT OPENINGS AND PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION AND DURING STORAGE ON THE CONSTRUCTION SITE UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF DUST, WATER AND DEBRIS WHICH MAY ENTER THE SYSTEM.

 - 5.504.5 FILTERS. IN MECHANICALLY VENTILATED BUILDINGS, PROVIDE REGULARLY OCCUPIED AREAS OF THE BUILDING WITH AIR FILTRATION MEDIA FOR OUTSIDE AND RETURN AIR PRIOR TO OCCUPANCY THAT PROVIDES AT LEAST A MINIMUM EFFICIENCY REPORTING VALUE (MERV) OF 13. MERV 13 FILTERS SHALL BE INSTALLED PRIOR TO OCCUPANCY AND RECOMMENDATIONS FOR MAINTENANCE WITH FILTERS OF THE SAME VALUE SHALL BE INCLUDED IN THE OPERATION AND MAINTENANCE MANUAL. EXCEPTIONS:
 -a. EXISTING MECHANICAL EQUIPMENT.

 - 5.504.5.1 LABELING. INSTALLED FILTERS SHALL BE CLEARLY LABELED BY THE MANUFACTURER INDICATING THE MERV RATING.

 - 5.506.1 OUTSIDE AIR DELIVERY. FOR MECHANICALLY OR NATURALLY VENTILATED SPACES IN BUILDINGS, MEET THE MINIMUM REQUIREMENTS OF SECTION 121 (REQUIREMENTS FOR VENTILATION) OF THE 2025 CALIFORNIA ENERGY CODE, OR THE APPLICABLE LOCAL CODE, WHICHEVER IS MORE STRINGENT, AND DIVISION 1, CHAPTER 4 OF CCR, TITLE 8.

 - 5.508.1 OZONE DEPLETION AND GREENHOUSE GAS REDUCTIONS. INSTALL HVAC AND REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT SHALL COMPLY WITH 5.508.1.1 AND 5.508.1.2.

 - 5.508.1.1 CHLOROFLUOROCARBONS (CFCS). INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN CFCS.

 - 5.508.1.2 HALONS. INSTALL HVAC, REFRIGERATION AND FIRE SUPPRESSION EQUIPMENT THAT DO NOT CONTAIN HALONS.

 - ADHESIVES, SEALANTS AND CAULKS SHALL MEET CALGREEN REQUIREMENTS.

 - INSTALLER AND SPECIAL INSPECTORS SHALL MEET ALL QUALIFICATIONS LISTED IN SECTION 702 OF THE 2025 CALIFORNIA GREEN BUILDING STANDARDS CODE.

3. COORDINATE ENTIRE INSTALLATION OF THE HVAC SYSTEM WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS, AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE ITEMS TO BE PROVIDED BY OTHER TRADES WHERE MENTIONED IN THE CONTRACT DOCUMENTS PRIOR TO BID - NO EXCEPTIONS.

4. COORDINATE THE LOCATIONS OF ALL CEILING DIFFUSERS, REGISTERS, AND GRILLES WITH THE ARCHITECTURAL REFLECTIVE CEILING PLAN, ELECTRICAL LIGHTING LAYOUT AND ARCHITECTURAL ROOM ELEVATIONS. THE ARCHITECT AND ENGINEER SHALL BE IMMEDIATELY NOTIFIED OF ANY CONFLICTS PRIOR TO FABRICATION AND INSTALLATION.

5. CONTRACTOR SHALL NOTIFY OWNER AND ENGINEER OF CONSTRUCTION PHASING PRIOR TO START OF CONSTRUCTION, REMOVAL, AND/OR REPLACEMENT OF ANY EQUIPMENT. CONTRACTOR SHALL RECEIVE PERMISSION IN WRITING PRIOR TO THE START OF ANY WORK DURING ANY PHASE FOR WORK SHOWN HEREIN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT WORK AND ARRANGE HIS WORK IN A MANNER THAT WILL CAUSE MINIMAL INTERFERENCE WITH DAILY FUNCTIONS WITHIN THE FACILITY. ANY EXPECTED DOWNTIME SHALL BE COORDINATED WITH THE OWNER.

6. ALL EQUIPMENT, DUCTS, PIPING, AND OTHER DEVICES AND MATERIALS INSTALLED OUTSIDE OF THE BUILDING OR OTHERWISE EXPOSED TO THE WEATHER SHALL BE COMPLETELY WEATHER-PROOFED AND PAINTED TO MATCH, COORDINATE WITH ARCHITECT PRIOR TO PAINTING.

7. THE OWNER ACKNOWLEDGES THAT THE DESIGN PROFESSIONAL'S PLANS ARE INSTRUMENTS OF PROFESSIONAL SERVICE. NEVERTHELESS, THE PLANS PREPARED UNDER THIS AGREEMENT SHALL BECOME THE PROPERTY OF THE OWNER UPON COMPLETION OF THE WORK. THE OWNER AGREES TO HOLD HARMLESS AND INDEMNIFY THE DESIGN PROFESSIONAL AGAINST ALL DAMAGES, CLAIMS AND LOSSES, INCLUDING DEFENSE COSTS, ARISING OUT OF ANY RESCUE OF THE PLANS WITHOUT THE WRITTEN AUTHORIZATION OF THE DESIGN PROFESSIONAL.

8. ALL DIMENSIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND MUST BE CONFIRMED ON SITE.

9. PRIOR TO OCCUPANCY, THE ENTIRE H.V.A.C. SYSTEMS SHALL BE BALANCED IN ACCORDANCE WITH (AABC) ASSOCIATED AIR BALANCE COUNCIL STANDARDS BY AN INDEPENDENT AIR BALANCE CONTRACTOR. CERTIFICATION SHALL BE PROVIDED BY THE CONTRACTOR FOR AIR AS APPLICABLE. SYSTEMS SHALL BE BALANCED AS INDICATED ON PLANS INCLUDING FRESH AIR VENTILATION. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE AIR BALANCE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO BALANCING OF SYSTEM. IF NOT THE AIR BALANCE CONTRACTOR SHALL BEAR ALL COSTS INCURRED FOR WORK THAT MUST BE RE-BALANCED DUE TO CONFLICTS ON CONTRACT DOCUMENTS. CONTRACTOR SHALL PROVIDE THREE COPIES OF THE AIR BALANCE REPORT TO THE ENGINEER FOR APPROVAL.

10. FOR INACCESSIBLE AREAS THE CONTRACTOR SHALL PROVIDE ACCESS PANELS FOR ALL DAMPERS, EQUIPMENT, SMOKE DETECTORS, AND CONTROL DEVICES. THESE PANELS SHALL MATCH THE RATING OF THE WALL AND/OR CEILING THAT THEY ARE LOCATED IN. MINIMUM ACCESS PANEL SIZES SHALL BE AS FOLLOWS:

 1) HAND ACCESS: 12"x12"

 2) BODY ACCESS: 30"x30" MIN. WHERE A LARGER ACCESS SIZE IS REQUIRED DUE TO INSTALLATION CONSTRAINTS, THE CONTRACTOR SHALL DO SO AT NO ADDITIONAL COST AND SHALL NOTIFY THE ARCHITECT AND ENGINEER OF DEVIATIONS PRIOR TO INSTALLATION.

11. COORDINATE THE LOCATION OF ALL ROOF OPENINGS AND THE LOCATION OF ALL ROOF MOUNTED EQUIPMENT WITH THE STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO ANY INSTALLATION.

12. PLATFORMS, CURBS, AND FLASHINGS FOR MECHANICAL EQUIPMENT SHALL BE AS INDICATED ON THE MECHANICAL PLANS, UNLESS NOTED OTHERWISE. WHERE THERE IS A CONFLICT WITH THE MECHANICAL PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER PRIOR TO FABRICATION AND INSTALLATION.

13. ALL EQUIPMENT, ACCESSORIES, AND RELATED PIPING SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, DAMPERS, VALVES, AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.

14. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL MECHANICAL EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED FOR THE OWNER'S USE.

15. PROVIDE MERV 13 EFFICIENCY THROWAWAY FILTERS FOR ALL AIR CONDITIONING UNITS. SEE EQUIPMENT SCHEDULE AND SPECIFICATIONS FOR TYPE. SIZES SHALL BE AS RECOMMENDED BY THE MANUFACTURER, UNLESS OTHERWISE SPECIFIED.

16. AIR FILTERS SHALL BE STATE FIRE MARSHALL APPROVED AND LISTED. PREFORMED FILTERS HAVING COMBUSTIBLE FRAMING SHALL BE TESTED AS A COMPLETE ASSEMBLY. AIR FILTERS SHALL BE ACCESSIBLE FOR CLEANING OR REPLACEMENT.

17. ALL EQUIPMENT WITH MOVING PARTS SHALL BE PROVIDED WITH FLEXIBLE DUCT AND PIPE CONNECTIONS.

18. ALL EQUIPMENT SHALL BE LABELED AS TO THE SPACE IT SERVES.

19. ALL HVAC EQUIPMENT SHALL BE CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION TO COMPLY WITH LATEST EFFICIENCY STANDARDS.

20. PROVIDE MANUAL VOLUME DAMPERS AND BACKDRAFT DAMPERS FOR FRESH AIR INTAKES ON ALL AIR HANDLING EQUIPMENT AND SUPPLY AIR FANS SERVING CONDITIONED SPACES.

21. ALL AIR HANDLING EQUIPMENT SERVING CONDITIONED SPACES SHALL PROVIDE CONTINUOUS FRESH AIR TO SPACES IN OCCUPIED MODE.

22. CONTRACTOR SHALL VERIFY ALL CLEARANCES AND INSTALL HVAC UNITS PER MANUFACTURER GUIDELINES.

23. CONTRACTOR TO SUBMIT ALL EQUIPMENT AND OTHER ACCESSORIES TO THE ENGINEER FOR APPROVAL PRIOR TO ANY ORDERING OF SUCH ITEMS.

24. CONTRACTOR SHALL BE RESPONSIBLE FOR COMMISSIONING OF EQUIPMENT.

25. PAINT EXPOSED SURFACES, WHETHER OR NOT COLORS ARE DESIGNATED IN SCHEDULES, EXCEPT WHERE A SURFACE OR MATERIAL IS SPECIFICALLY INDICATED NOT TO BE PAINTED OR IS TO REMAIN NATURAL. WHERE AN ITEM OR SURFACE IS NOT SPECIFICALLY MENTIONED, PAINT THE SAME AS SIMILAR ADJACENT MATERIALS OR SURFACES. IF COLOR OR FINISH IS NOT DESIGNATED, THE OWNER'S REPRESENTATIVE WILL SELECT FROM STANDARD COLORS OR FINISHES AVAILABLE.

 1) PAINTING INCLUDES FIELD PAINTING EXPOSED BARE AND COVERED PIPES AND DUCTS (INCLUDING COLOR CODING), HANGERS, EXPOSED STEEL AND IRON WORK, AND PRIMED METAL SURFACES OF MECHANICAL AND ELECTRICAL EQUIPMENT.

26. ALL MECHANICAL PIPING SYSTEMS, DUCTS, CONTROLS, VALVES, APPARATUS, ETC., EXCEPT THOSE THAT ARE INSTALLED IN INACCESSIBLE LOCATIONS IN PARTITIONS, WALLS, AND FLOORS, AND THOSE BURIED UNDERGROUND, SHALL BE PERMANENTLY MARKED AND IDENTIFIED AS INDICATED IN THE RELATED SPECIFICATIONS.

27. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE CITY INSPECTOR.

----- CONTROLS -----

1. CONTROL SCHEMATICS ARE FOR SEQUENCE ONLY. REFER TO ELECTRICAL DRAWINGS AND SPECIFICATIONS FOR ALL ELECTRICAL DEVICES REQUIRED.

2. ALL LINE VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT. ALL LINE VOLTAGE CONDUIT AND WIRING, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR AS INDICATED ON THE ELECTRICAL DRAWINGS OR SPECIFIED IN THE ELECTRICAL SECTION OF THE SPECIFICATIONS. ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS OF ALL GOVERNING BODIES HAVING JURISDICTION THEREOF.

3. ALL LOW VOLTAGE CONDUIT AND WIRING AS APPLICABLE, INCLUDING FINAL CONNECTIONS, SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR AS INDICATED ON THE MECHANICAL DRAWINGS.

 A1) ALL LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT.

 A2) ALL LOW VOLTAGE WIRING SHALL BE PLENUM - RATED.

 B) WHERE THE CONTROLS CONTRACTOR IS RETAINED BY THE OWNER, THEY SHALL BE RESPONSIBLE FOR THE FOLLOWING:

 1) FURNISH AND INSTALL ALL DEVICES, WIRING, AND TERMINATIONS REQUIRED FOR A COMPLETE AND FUNCTIONAL INSTALLATION.

 2) COORDINATE ALL WORK AND REQUIREMENTS WITH OTHER TRADES INCLUDING GENERAL, MECHANICAL, AND ELECTRICAL CONTRACTORS PRIOR TO BID.

 3) CONTRACTOR SHALL FOLLOW ALL SUBMITTAL REQUIREMENTS PER DRAWINGS.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR ORDERING AIR CONDITIONING EQUIPMENT WITH THRU-THE-BASE POWER, CONTROL, AND GAS CONNECTIONS. VERIFY ALL CONNECTION LOCATIONS WITH UNIT MANUFACTURER AND COORDINATE WITH OTHER TRADES AS NECESSARY.

5. ELECTRICAL CONTRACTOR SHALL PROVIDE REQUIRED RELAY ACCESSORIES FOR CONNECTION OF 120 VOLT 1 PHASE VENTILATION EQUIPMENT TO 277 VOLT 1 PHASE LIGHTING AS APPLICABLE.

6. ALL THERMOSTATS SHALL HAVE LOCKABLE COVERS (WHERE INDICATED ON PLANS) AND SHALL BE OF THE ELECTRONIC, PROGRAMMABLE, AUTOMATIC CHANGEOVER TYPE TO SEQUENCE HEATING OR COOLING. SET POINT RANGE SHALL BE 10 DEGREES F. BETWEEN FULL HEATING AND COOLING. THEY SHALL HAVE CAPABILITY OF TERMINATING ALL HEATING AT A TEMPERATURE NO MORE THAN 70 DEGREES F., AND COOLING AT A TEMPERATURE NOT LESS THAN 78 DEGREES F. ADJUSTABLE TEMPERATURE DIFFERENTIAL SHALL BE 1- 1/2 DEGREES F. CONTROL LIMITS SHALL BE FROM 55 DEGREES F. TO 85 DEGREES F. MOUNT AT 48 INCHES ABOVE FLOOR OR AS REQUIRED BY LOCAL AUTHORITIES OR HANDICAP CODES.

 NOTES: 1) THERMOSTATS THAT ARE PART OF AN ENERGY MANAGEMENT SYSTEM SHALL FOLLOW CONTROL SPECIFICATIONS AND DRAWING REQUIREMENTS.

 2) SHOULD THE LOCATION OF THE THERMOSTAT NOT MEET THE ADA HEIGHT REQUIREMENTS DUE TO OBSTRUCTIONS, THEN AN ALTERNATE LOCATION SHALL BE PROPOSED OR REQUESTED BY THE CONTRACTOR THAT SHALL BE APPROVED BY THE ENGINEER AND ARCHITECT.

7. LINE VOLTAGE THERMOSTATS SHALL BE FURNISHED BY THE MECHANICAL CONTRACTOR AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

8. CONTROLS CONTRACTOR AND AIR BALANCE CONTRACTOR SHALL COORDINATE WORK AND PERFORM NECESSARY TASKS AS REQUIRED TO OBTAIN AIR AND WATER FLOW QUANTITIES FOR SYSTEMS SHOWN HEREIN.

9. CONTROLS SHALL BE PROVIDED TO PROVIDE THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY THE STATE ENERGY REGULATIONS.

----- AIR DISTRIBUTION -----

1. ALL DUCTWORK SHALL BE SHEET METAL CONSTRUCTED OR SPIRAL, ERECTED, AND TESTED IN ACCORDANCE WITH THE MOST RESTRICTIVE OF LOCAL REGULATIONS, PROCEDURES DETAILED IN THE ASHRAE HANDBOOK OF FUNDAMENTALS, CHAPTER 6 OF THE MECHANICAL CODE, OR THE APPLICABLE STANDARDS ADOPTED BY THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION.

2. CONTRACTOR SHALL PROVIDE EXTERIOR MANUAL VOLUME DAMPER HANDLES W/ LOCK-DOWN AFTER COMPLETING AIR BALANCE & OBTAIN FINAL APPROVAL FROM ENGINEER.

3. ALL RECTANGULAR DUCT TURNS IN OUTSIDE AIR DUCTS SHALL HAVE SINGLE WALL TURNING VANES WITH TRAILING EDGE, UNLESS OTHERWISE NOTED.

4. MANUAL VOLUME DAMPERS SHALL BE PROVIDED IN ALL DUCT BRANCHES TO INDIVIDUAL FRESH AIR INTAKE DUCTS. DAMPERS SHALL BE LOCATED AT THE BRANCH DUCT LOCATIONS. THE MECHANICAL CONTRACTOR SHALL COORDINATE LOCATIONS OF DAMPERS WITH THE AIR BALANCE CONTRACTOR PRIOR TO BID, SO THEY ARE ACCESSIBLE PRIOR TO INSTALLATION. IN LOCATIONS WHERE THESE DAMPERS ARE INACCESSIBLE, CABLE OPERATED ADJUSTMENT CONTROLS SHALL BE PROVIDED AT NO ADDITIONAL COST. OPPOSED BLADE DAMPERS SHALL NOT BE PERMITTED UNLESS NOTED OTHERWISE.

5. DUCTWORK HANDLING CONDITIONED AIR SHALL BE INSULATED OR LINED AS INDICATED ON DRAWINGS. SUPPLY AND RETURN DUCT INSULATION SHALL BE MIN. 2" THICK, 1.5 LB./CUBIC FT. DENSITY AND HAVE A MIN. VALUE OF R-8 WHERE LOCATED IN ONE OR MORE OF THE FOLLOWING SPACES:

 A) OUTDOORS, OR

 B) IN A SPACE BETWEEN THE ROOF AND AN INSULATED CEILING, OR

 C) IN A SPACE DIRECTLY UNDER A ROOF WITH FIXED VENTS OR OPENINGS TO THE OUTSIDE OR UNCONDITIONED SPACES, OR

 D) IN AN UNCONDITIONED CRAWLSPACE; OR

 E) IN OTHER UNCONDITIONED SPACES

 PER 2025 CEC, OTHERWISE PROVIDE R-4.2 WHEN LOCATED IN CONDITIONED ATTIC SPACES ABOVE CEILINGS . ALL DUCTWORK EXPOSED ON ROOF SHALL BE INTERNALLY LINED WITH 2" THICK, 1.5LB./CUBIC FT. DENSITY DUCT LINER UNLESS OTHERWISE INDICATED OR SPECIFIED. ALL DUCT SIZES ARE NET CLEAR INSIDE DIMENSIONS. ALL DUCT JOINTS SHALL BE SEALED PER CHAPTER 6 MECHANICAL CODE REQUIREMENTS. PROVIDE PIPING AND DUCT INSULATION IN ACCORDANCE WITH THE LATEST STANDARDS OF THE CALIFORNIA ENERGY COMMISSION.

6. DUCTS, PLENUMS, OR FITTINGS OF METAL SHALL COMPLY WITH SMACNA DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE. CMC 602.3.

7. DUCTWORK SHALL BE LEAKED TESTED IN ACCORDANCE WITH SMACNA HVAC AIR DUCT LEAKAGE TEST MANUAL. CMC 603.10.1.

----- ADMINISTRATIVE REQUIREMENTS -----

1. THE PERSON WITH OVERALL RESPONSIBILITY FOR CONSTRUCTION OR THE PERSON RESPONSIBLE FOR THE INSTALLATION OF REGULATED FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES SHALL POST, OR MAKE AVAILABLE WITH THE BUILDING PERMIT(S) ISSUED FOR THE BUILDING, THE REQUIRED INSTALLATION CERTIFICATE(S) FOR FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS OR PART 6. SUCH INSTALLATION CERTIFICATE(S) SHALL BE MADE AVAILABLE TO THE ENFORCEMENT AGENCY FOR ALL APPROPRIATE INSPECTIONS. THESE CERTIFICATES SHALL:
 i) IDENTIFY FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES REQUIRED TO VERIFY COMPLIANCE WITH THE APPLIANCE EFFICIENCY REGULATIONS AND PART 6.
 ii) INCLUDE A STATEMENT INDICATING THAT THE FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVISE CONFORM TO THE APPLIANCE EFFICIENCY REGULATIONS AND PART 6 AND THE REQUIREMENTS FOR SUCH FEATURES, MATERIALS, COMPONENTS, OR MANUFACTURED DEVICES GIVEN IN THE PLANS AND SPECIFICATIONS APPROVED BY THE LOCAL ENFORCEMENT AGENCY.
 iii) STATE THE NUMBER OF THE BUILDING PERMIT UNDER WHICH THE CONSTRUCTION OR INSTALLATION WAS PERFORMED.

2. THE BUILDER SHALL PROVIDE THE BUILDING OWNER OR THE PERSON(S) RESPONSIBLE FOR BUILDING MAINTENANCE (IN CASE OF MULTI-TENANT OR CENTRALLY OPERATED BUILDINGS) AT OCCUPANCY THE FOLLOWING:
 1) OPERATING INFORMATION: THE APPROPRIATE CERTIFICATE(S) OF COMPLIANCE AND A LIST OF THE FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES INSTALLED IN THE BUILDING AND INSTRUCTIONS ON HOW TO OPERATE THEM EFFICIENTLY.
 2) MAINTENANCE INFORMATION: REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL MAY BE LIMITED TO IDENTIFYING THE OPERATION AND MAINTENANCE MANUAL.
 3) VENTILATION INFORMATION: A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AND RECIRCULATED AIR THAT THE VENTILATION SYSTEMS ARE DESIGNED TO PROVIDE TO EACH AREA.

----- MANDATORY MEASURES -----

1. JOINTS, PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER STRIPPED, OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION.

2. ALL INSULATING MATERIAL SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME-SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF THE CBC.

3. NON-CENTRALIZED ENERGY MANAGEMENT SYSTEMS SHALL HAVE SETBACK THERMOSTATS CAPABLE TO PROGRAM TEMPERATURE SETPOINTS FOR AT LEAST FOUR PERIODS WITHIN A 24-HR. PERIOD.

4. THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR REQUIRED BY SEC. 120.1 (C), OR THREE COMPLETE AIR CHANGES SHALL BE SUPPLIED TO THE ENTIRE BUILDING DURING THE ONE-HOUR PERIOD IMMEDIATELY BEFORE THE BUILDING IS NORMALLY OCCUPIED.

5. ALL MECHANICAL VENTILATION AND SPACE-CONDITIONING SYSTEMS SHALL BE DESIGNED WITH DUCTWORK, DAMPERS, AND CONTROLS WHICH ALLOWS OUTSIDE AIR RATES TO BE OPERATED AT THE LARGER OF (1) THE MINIMUM LEVELS SPECIFIED IN SECTION 120.1(C)3 OR (2) THE RATE REQUIRED FOR MAKE-UP OF EXHAUST SYSTEMS THAT ARE REQUIRED FOR AN EXEMPT OR COVERED PROCESS, FOR CONTROL OF ODORS, OR FOR THE REMOVAL OF CONTAMINANTS WITHIN THE SPACE. MEASURED OUTSIDE AIR RATES OF CONSTANT AND VARIABLE VOLUME MECHANICAL VENTILATION SYSTEMS SHALL BE WITHIN 10% OF OUTSIDE AIR RATE SHOWN ON TABLE 120.1-A.

6. THE THERMOSTATIC CONTROLS FOR HVAC SYSTEMS SHALL BE CAPABLE OF BEING SET LOCALLY OR REMOTELY BY TO CONTROL COMFORT HEATING DOWN TO 55 °F OR LOWER AND COOLING UP TO 85°F OR HIGHER. THE THERMOSTATIC CONTROLS SHALL BE CAPABLE OF PROVIDING A DEAD BAND RANGE OF AT LEAST 5°F WITHIN WHICH HEATING AND COOLING ENERGY TO THE ZONE IS SHUT OFF OR REDUCED TO A MINIMUM.

7. OUTDOOR AIR SUPPLY AND EXHAUST EQUIPMENT SHALL BE INSTALLED WITH DAMPERS THAT AUTOMATICALLY CLOSE UPON FAN SHUTDOWN.

8. AIR DISTRIBUTION SYSTEM DUCTS AND PLENUMS, INCLUDING, BUT NOT LIMITED TO, BUILDING CAVITIES, MECHANICAL CLOSETS, AIR-HANDLER BOXES AND SUPPORT PLATFORMS USED AS DUCTS OR PLENUMS, SHALL BE INSTALLED, SEALED AND INSULATED TO MEET THE REQUIREMENTS OF CHAPTER 6 CMC CODE AND ANSI/SMACNA -006-2006 HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE. SUPPLY-AIR DUCTS CONVEYING HEATED OR COOLED AIR SHALL BE INSULATED TO A MINIMUM INSTALLED LEVEL OF R-4.2 (R-8 IN UNCONDITIONED SPACE), UNLESS DUCTS ARE IN CONDITIONED SPACE.

9. EACH SPACE-CONDITIONING SYSTEM SHALL BE INSTALLED WITH CONTROLS (1) CAPABLE OF AUTOMATICALLY SHUTTING OFF THE SYSTEM DURING PERIODS OF NON-USE AND SHALL HAVE (A) 4-HR TIMER OR; (B) OCCUPANCY SENSORS OR; (C) AUTO TIME SWITCH CONTROLS AND ACCESSIBLE MANUAL OVERRIDE FOR UP TO 4-HRS. (2) AUTOMATICALLY RESTART AND TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN SETBACK THERMOSTAT SETPOINTS FOR MECHANICAL HEATING AND COOLING. (3) MULTIPURPOSE, CLASSROOMS CONFERENCE, CONVENTION, AUDITORIUM AND MEETING CENTER ROOMS OF CERTAIN SIZE WHICH DO NOT HAVE PROCESSES OR OPERATIONS THAT GENERATE DUSTS, FUMES, VAPORS OR GASSES SHALL BE EQUIPPED WITH OCCUPANT SENSOR(S) TO ACCOMPLISH THE FOLLOWING DURING UNOCCUPIED PERIODS (A) AUTOMATICALLY SETUP THE OPERATING COOLING TEMPERATURE SET POINT BY 2°F OR MORE AND SETBACK THE OPERATING HEATING TEMPERATURE SET POINT BY 2°F OR MORE AND; (B) AUTOMATICALLY RESET THE MINIMUM REQUIRED VENTILATION RATE WITH AN OCCUPANT SENSOR VENTILATION CONTROL DEVICE ACCORDING TO SECTION 120.1(C)5. (4) HOTEL AND MOTEL GUEST ROOMS SHALL HAVE CAPTIVE CARD KEY CONTROLS, OCCUPANCY SENSING CONTROLS, OR AUTOMATIC CONTROLS SUCH THAT, NO LONGER THAN 30 MINUTES AFTER THE GUEST ROOM HAS BEEN VACATED, SETPOINTS ARE SETUP AT LEAST +5°F (+3°C) IN COOLING MODE AND SET-DOWN AT LEAST -5°F (-3°C) IN HEATING MODE.

----- AIR CONDITIONING COMPLIANCE -----

1. DUCT SYSTEMS USED WITH BLOWER TYPE EQUIPMENT WHICH ARE PORTIONS OF A HEATING, COOLING, ABSORPTION, EVAPORATIVE COOLING OR OUTDOOR AIR VENTILATION SYSTEM SHALL BE SIZED IN ACCORDANCE WITH CHAPTER 17 OF THE CALIFORNIA MECHANICAL CODE.

LEGEND

SYMBOL	ABBR.	DESCRIPTION
	-	SUPPLY AIR RISER
	-	RETURN AIR RISER
	-	EXHAUST AIR RISER
	SAG	SUPPLY AIR GRILLE
	RAG	RETURN AIR GRILLE
	EAG	EXHAUST AIR GRILLE
	SWR	SIDEWALL REGISTER
	(L)	LINED DUCTWORK
	-	FLEXIBLE CONNECTION
	FC	FLEXIBLE CONNECTION
	-	NEW DUCT (SEE PLAN)
	-	EXISTING DUCT (SEE PLAN)
	-	DEMO DUCT (SEE PLAN)
	MVD	MANUAL VOLUME DAMPER
	BDD	BACKDRAFT DAMPER
S/F	SFD	SMOKE / FIRE DAMPER
F	FD	FIRE DAMPER
	DL	DOOR LOUVER
U.C.	UC	UNDERCUT DOOR 3/4"
RS	RS	REFRIGERANT SUCTION LINE
RL	RL	REFRIGERANT LIQUID LINE
CD	CD	CONDENSATE DRAIN
	S.D.	SMOKE DETECTOR
	P.O.C.	POINT OF CONNECTION
	T-STAT	THERMOSTAT
H	H	HUMIDISTAT
TS	TS	TEMPERATURE SENSOR
OS	OS	OVERRIDE SWITCH
PD	PD	PRESSURE DIFFERENTIAL SWITCH
S	S	SWITCH
	O.C.	ON CENTER
	HWR	HOT-WATER RETURN
	HWS	HOT-WATER SUPPLY
	I.D.	INSIDE DIAMETER
	O.D.	OUTSIDE DIAMETER
	W/	WITH
	S/M	SHEET METAL
	S/S	STAINLESS STEEL
	G.C.	GENERAL CONTRACTOR
	VTR	VENT THRU ROOF
	EMS	ENERGY MANAGEMENT SYSTEM
	OBD	OPPOSED BLADE DAMPER
	FSC	FAN SPEED CONTROL
E	E	ITEMS FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR AS SPECIFIED ON THE ELECTRICAL CONTRACT DOCUMENTS
M	M	ITEMS FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR AS SPECIFIED ON THE MECHANICAL CONTRACT DOCUMENTS
EM	EM	ITEMS FURNISHED BY ELECTRICAL CONTRACTOR AND INSTALLED BY MECHANICAL CONTRACTOR.
ME	ME	ITEMS FURNISHED BY MECHANICAL CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
	C.C.	CONTROLS CONTRACTOR
	CBD	COUNTER-BALANCE DAMPER
DS	D.S.	DOOR SWITCH

APPLICABLE CODES

2025 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1 TITLE 24 C.C.R.
2025 CALIFORNIA BUILDING CODE (CBC). PART 2, TITLE 24 C.C.R.
2025 CALIFORNIA ELECTRICAL CODE (CEC). PART 3, TITLE 24 C.C.R. (2014 NEC)
2025 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 C.C.R.
2025 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 C.C.R.
2025 CALIFORNIA ENERGY CODE , PART 6, TITLE 24 C.C.R.
2025 CALIFORNIA FIRE CODE , PART 9, TITLE 24 C.C.R.
2025 CALIFORNIA REFERENCED STANDARDS, PART 12, TITLE 24 C.C.R.
2025 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 C.C.R.

TITLE 19 C.C.R., PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS.
AMERICAN WITH DISABILITY ACT.

PARTIAL LIST OF APPLICABLE STANDARDS.

NFPA 13	AUTOMATIC SPRINKLER SYSTEM. 2025 EDITION.
NFPA 24	PRIVATE FIRE MAINS (INCLUDED IN 2022 NFPA 13) 2025 EDITION.
NFPA 72	NATIONAL FIRE ALARM CODE (CALIFORNIA AMENDED)

REFERENCE CODE SECTION FOR NFPA STANDARDS - 2025 CBC (SFM) CHPT. 35

SHEET INDEX

S.NO.	SHEET NO.	SHEET TITLE
1	M-001	MECHANICAL GENERAL NOTES AND LEGEND
2	M-002	MECHANICAL SCHEDULES
3	M-003	MECHANICAL SPECIFICATIONS
4	M-004	MECHANICAL SPECIFICATIONS
5	MD-100	MECHANICAL DEMOLITION FLOOR PLAN
6	MD-200	MECHANICAL DEMOLITION ROOF PLAN
7	M-100	MECHANICAL REMODEL FLOOR PLAN
8	M-200	MECHANICAL REMODEL ROOF PLAN
9	M-300	MECHANICAL DETAILS
10	M-500	MECHANICAL TITLE 24
11	M-501	MECHANICAL TITLE 24

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER ABBY BANERJEE No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

TITLE
MECHANICAL GENERAL NOTES AND LEGEND

SHEET #
M-001

EXISTING PACKAGED GAS/ELECTRIC A/C UNIT SCHEDULE - FOR REFERENCE

SYM	MFR & MODEL #	NOMINAL TONS	COOLING CAPACITY		SEER / IEER	HEATING CAPACITY		AFUE %	CFM	MIN. OA CFM*	ESP	FAN PWR (HP)	FAN MOTOR TYPE	ELECTRICAL				WEIGHTS		
			TOTAL	SENSIBLE		INPUT	OUTPUT							V	PH	MCA	MOCP	UNIT	CURB	TOTAL
AC 4-26	CARRIER 48VGUE480905	4	47,790	37,030	16.00 / -	89,000	73,000	81.0	1,700	305	0.5	0.63	DIRECT	208	3	26.3	40	495	20	515
AC 4-28	CARRIER 48VGUE300403	2.5	28,600	20,070	15.00 / -	45,000	37,000	81.0	910	160	0.45	0.25	DIRECT	208	1	21.7	30	355	20	375
AC 4-31	CARRIER 48VGUE300403	2.5	28,600	20,070	15.00 / -	45,000	37,000	81.0	910	245	0.45	0.25	DIRECT	208	1	21.7	30	355	20	375

*CONTRACTOR SHALL BALANCE OSA TO VALUE INDICATED ON SCHEDULE. OSA VALUE CALCULATED USING ENERGYPRO SOFTWARE BASED ON THE LATEST CALIFORNIA ENERGY CODE

EXISTING PACKAGED HEAT PUMP UNIT SCHEDULE - FOR REFERENCE

SYM	MFR & MODEL #	NOMINAL TONS	CFM	MIN. OA CFM*	ESP (IN. WG)	FAN BHP	FAN MOTOR TYPE	COOLING				HEATING		ELECTRICAL				WEIGHTS		
								TOTAL CAPACITY (BTU/H)	SENSIBLE CAPACITY (BTU/H)	SEER	EER	OUTPUT (BTU/H)	HSPF	V	PH	MCA	MOCP	UNIT	CURB	TOTAL
AC 4-27	CARRIER 50VR-A48	4	1,700	820	0.5	0.63	DIRECT	47,850	37,050	15.00	-	46,970	8.2	208	3	26.3	40	450	20	470
AC 4-32	CARRIER 50VR-C30	2.5	940	165	0.5	0.33	DIRECT	28,720	21,440	15.00	-	29,570	8.2	208	1	21.8	30	355	20	375

*CONTRACTOR SHALL BALANCE OSA TO VALUE INDICATED ON SCHEDULE. OSA VALUE CALCULATED USING ENERGYPRO SOFTWARE BASED ON THE LATEST CALIFORNIA ENERGY CODE

EXHAUST FAN SCHEDULE

SYM	MFR & MODEL #	TYPE	AREA SERVICED	CFM	ESP	HP	ELECTRICAL				FAN RPM	WT	REMARKS
							V	PH	FLA	MOCP			
EF 1	GREENHECK SP-A200	CEILING	RESTROOM	80	0.5	-	115	1	0.5	15	777	30 LB	1, 2, 3, 4, 5
EF 2	GREENHECK SP-A200	CEILING	RESTROOM	80	0.5	-	115	1	0.5	15	777	30 LB	1, 2, 3, 4, 5
EF 3	GREENHECK SP-A200	CEILING	RESTROOM	80	0.5	-	115	1	0.5	15	777	30 LB	1, 2, 3, 4, 5
EF 4	GREENHECK SP-A200	CEILING	RESTROOM	80	0.5	-	115	1	0.5	15	777	30 LB	1, 2, 3, 4, 5

REMARKS

1. BACK DRAFT DAMPER.
2. INTERLOCK WITH LIGHTS.
3. PROVIDE SPEED CONTROL DIAL FOR AIR BALANCING.
4. FAN WHEEL ALUMINUM CONSTRUCTION.
5. ALUMINUM GRILLE.

NOTES:

ALL DIMENSION, SERVICE ACCESS LOCATIONS, AND CONNECTION LOCATIONS SHALL BE VERIFIED PRIOR TO ORDERING/BEGINNING INSTALLATION.

AIR DISTRIBUTION SCHEDULE

SYM.	MFR. & MODEL #	NECK SIZE	CFM RANGE	MAX. NECK VELOCITY	MAX. N.C.	S.P. DROP	TYPE	DAMPER	REMARKS
- SD-1	TRUAIRE 2004CDL	6"Ø 8"Ø 10"Ø 12"Ø 14"Ø	0-100 101-175 176-270 271-390 391-535	500	<15	.06	PLAQUE	MVD	ALUMINUM CONSTRUCTION, 24"x24" MODULE,T-BAR MOUNTED
- SD-2	TITUS PSS	6"X6"	0-125	500	20	.07	PERFORATED	MVD	ALUMINUM CONSTRUCTION, 12"x12",MODULE,HARDLID MOUNTED, BLACK BACK PAN, FIELD ADJUSTED DISCHARGE PATTERN, SQUARE TO ROUND
- RG-1	TITUS PAR-AA	6"Ø 8"Ø 10"Ø 12"Ø 14"Ø	0-78 79-140 140-218 219-314 315-427	500	<15	0.07	PERFORATED	MVD	ALUMINUM CONSTRUCTION, 24"X24" MODULE, T-BAR MOUNTED,BLACK BACK PAN
- EG-1	TITUS 355R	6"x6" 8"x8" 10"x10" 12"x12" 18"x12"	0-95 96-185 186-295 296-440 441-610	500	30	.06	35 DEGREE DEFLECTION, ADJUSTABLE	MVD	ALUMINUM CONSTRUCTION, 1/2" BLADE SPACING BORDER TYPE 1 FOR SURFACE MOUNT
- TG-1	TITUS PAR-AA	22"X22"	0-1680	500	30	.06	PERFORATED	MVD	ALUMINUM CONSTRUCTION, 24"X24" MODULE T-BAR MOUNTED, BLACK BACK PAN

LEGEND:

400 / SD-1 — CFM / AIR DISTRIBUTION DEVICE

SD	SUPPLY DIFFUSER
RG	RETURN GRILLE
TG	TRANSFER GRILLE
EG	EXHAUST GRILLE

NOTES:

CONTRACTOR SHALL PROVIDE REMOTE CABLE DAMPERS IN ALL AREAS WITH HARD LID CEILINGS OR AREAS WHERE DAMPER WOULD OTHERWISE BE INACCESSIBLE FOR TAB CONTRACTOR.

GRAVITY HOOD SCHEDULE

SYM.	MFR.& MODEL#	TYPE	CFM	PD	THROAT SIZE	FREE AREA	HOOD SIZE (W xL)	WT	REMARKS
GR 1	GREENHECK FGR	RELIEF	1400	.06	18"X18"	2.25 SQ.FT.	32"X39"	75 LBS	1, 2, 3

REMARKS:

1. PROVIDE GREENHECK WD-100 COUNTERBALANCE DAMPER PER THE THROAT SIZE.
2. PROVIDE INSECT SCREEN.
3. PROVIDE 14" ROOF CURB.

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — JOHN BANDELE — No. M28053 — Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE

MECHANICAL SCHEDULES

SHEET #

M-002

MECHANICAL SPECIFICATIONS

SECTION 23 00 00

HEATING, VENTILATION AND AIR CONDITIONING

1. PART 1 - GENERAL

1.1 DESCRIPTION

A. WORK UNDER THIS SECTION INCLUDES ALL LABOR, EQUIPMENT, MATERIAL, SERVICES, TRANSPORTATION, ETC. REQUIRED FOR AND REASONABLY INCIDENTAL TO THE COMPLETE AND SATISFACTORY INSTALLATION OF ALL OF THE HVAC SYSTEMS AS INDICATED ON THE DRAWINGS OR SPECIFIED HEREIN.

1.2 WORK INCLUDED IN THIS SECTION:

A. PACKAGE ROOF TOP HEAT PUMP UNITS

B. MINI-SPLIT HEAT PUMP UNITS

C. VARIABLE VOLUME AND TEMPERATURE SYSTEMS(VVT)

D. EXHAUST FANS.

E. SUBMITTALS AND SHOP DRAWINGS.

F. RECORD DRAWINGS.

G. OPERATION AND MAINTENANCE MANUALS.

H. GUARANTEE.

1.3 RELATED WORK SPECIFIED ELSEWHERE

A. ELECTRICAL SUPPLY TO UNITS. SEE ELECTRICAL DRAWINGS.

1.4 GENERAL REQUIREMENTS

A. THIS SECTION OF THE SPECIFICATION SHALL BE CONSIDERED AS A PART OF THE ENTIRE SPECIFICATION AND ALL APPLICABLE PORTIONS OF GENERAL CONDITIONS, SPECIAL CONDITIONS, AND DIVISION 1 SHALL APPLY.

B. ERECTION: THE CONTRACTOR SHALL FURNISH THE SERVICES OF AN EXPERIENCED SUPERINTENDENT, WHO SHALL BE CONSTANTLY IN CHARGE OF THE ERECTION OF THE WORK, TOGETHER WITH ALL NECESSARY JOURNEYMEN, HELPERS, AND LABORERS REQUIRED TO PROPERLY UNLOAD, ERECT, CONNECT, ADJUST, START OF OPERATE AND TEST THE WORK INVOLVED.

1.5 REFERENCES

A. AABC - NATIONAL STANDARDS FOR FIELD MEASUREMENT AND INSTRUMENTATION, TOTAL SYSTEM BALANCE.

B. AMCA 210 - LABORATORY METHODS OF TESTING FANS FOR RATING PURPOSES.

C. AMCA 300 - TEST CODE FOR SOUND RATING AIR-MOVING DEVICES.

D. ANSI/NFPA 90A - INSTALLATION OF AIR CONDITIONING AND VENTILATION SYSTEM.

E. ARI 270 - SOUND RATING OF OUTDOOR UNITARY EQUIPMENT.

F. ASHRAE 52-76 - METHOD OF TESTING AIR CLEANING DEVICES USED IN GENERAL VENTILATION FOR REMOVING PARTICULATE MATTER.

G. ASTM A90 - WEIGHT OF COATING ON ZINC - COATED (GALVANIZED) IRON OR STEEL ARTICLES.

H. ASTM A120 - BLACK AND GALVANIZED STEEL PIPE.

I. ASTM B88 - SEAMLESS COPPER WATER TUBE.

J. ASTM C518 - STEADY STATE HEAT FLUX MEASUREMENTS AND THERMAL TRANSMISSION PROPERTIES BY MEANS OF THE HEAT FLOW METER APPARATUS.

K. ASTM C553 - MINERAL FIBER BLANKET AND FELT INSULATION.

L. ASTM C612 - MINERAL FIBER BLOCK AND BOARD THERMAL INSULATION.

M. ASTM E84 - SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

N. ASTM E96 - WATER VAPOR TRANSMISSION OF MATERIALS.

O. NFPA 90B - INSTALLATION OF WARM AIR HEATING AND AIR CONDITIONING SYSTEMS.

P. NFPA 255 - SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

Q. SMACNA - LOW PRESSURE DUCT CONSTRUCTION STANDARDS.

R. UL 181 - FACTORY MADE AIR DUCTS AND CONNECTORS.

S. UL 723 - SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS.

T. CALIFORNIA MECHANICAL CODE - 2022 EDITION.

1.6 SUBMITTALS AND SHOP DRAWINGS

A. CONTRACTOR AGREES THAT SHOP DRAWINGS SUBMITTALS PROCESSED BY THE OWNER/ARCHITECT DO NOT BECOME CONTRACT DOCUMENTS AND ARE NOT CHANGE ORDERS; THAT THE PURPOSE OF THE SHOP DRAWING REVIEW IS TO ESTABLISH A REPORTING PROCEDURE AND IS INTENDED FOR THE CONTRACTOR'S CONVENIENCE IN ORGANIZING HIS WORK AND TO PERMIT THE OWNER/ARCHITECT TO MONITOR THE CONTRACTOR'S PROGRESS AND UNDERSTANDING OF THE DESIGN. THE PROCESS OF REVIEW OF THE CONTRACTOR'S SUBMITTALS IS NOT OF TESTING THE OWNER/ARCHITECT'S PERCEPTION. IF DEVIATIONS, DISCREPANCIES OR CONFLICTS BETWEEN SHOP DRAWINGS SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER THE SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE OWNER/ARCHITECT, THE CONTRACTOR AGREES THAT THE CONTRACT DOCUMENTS SHALL CONTROL AND SHALL BE FOLLOWED.

B. PREPARE AND FURNISH FULLY COORDINATED SHOP DRAWINGS SHOWING DUCTWORK AND PIPING ON SEPARATE DRAWINGS. THE DRAWINGS SHALL BE MINIMUM 1/4" = 1'-0" SCALE AND SHALL SHOW DIMENSIONING OF PIPING AND DUCTWORK FROM GRIDLINES, BOTTOM OF ELEVATION MARKS FOR DUCTWORK AND PIPING AND FITTINGS, VALVES, DAMPERS, DEVICES, ETC. WITH LABELS. IN ADDITION, COORDINATE WITH RELATED WORK AND REFERENCE ON THE SAME DRAWINGS MAJOR PLUMBING PIPING, STRUCTURAL STEEL, FIRE PROTECTION PIPING, CONDUIT RUNS AND CABLE TRAYS. REVIEW AND SIGN THESE DRAWINGS TO VERIFY COORDINATION OF RELATED EQUIPMENT. CONFLICTS, WHICH OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO ISSUANCE OF THE DRAWINGS.

C. MATERIALS AND EQUIPMENT: AS SOON AS POSSIBLE AND WITHIN 14 DAYS AFTER AWARD OF THE CONTRACT, AND BEFORE THEIR PURCHASE, THE CONTRACTOR SHALL SUBMIT TO THE OWNER SEVEN BOUND BOOKLETS FOR APPROVAL CONTAINING A COMPLETE LIST OF MATERIALS, SPECIALTIES AND EQUIPMENT HE IS TO FURNISH FOR THE INSTALLATION. LITERATURE SHALL BE STANDARD MANUFACTURER'S CATALOG CUTS AND ITEMS TO BE INSTALLED SHALL BE CLEARLY INDICATED. ALL SUBMITTALS SHALL BE MADE AT ONE TIME.

D. EACH ITEM SHALL BE IDENTIFIED BY MANUFACTURER, BRAND AND TRADE NAME, NUMBER, SIZE, RATING AND WHATEVER OTHER DATA IS NECESSARY TO PROPERLY IDENTIFY AND CHECK THE MATERIALS AND EQUIPMENT. THE WORDS: "AS SPECIFIED" WILL NOT BE CONSIDERED SUFFICIENT IDENTIFICATION.

E. ACCESSORIES, CONTROLS, FINISH, ETC., NOT SUBMITTED OR IDENTIFIED WITH THE SUBMITTED EQUIPMENT SHALL BE FURNISHED AND INSTALLED AS SPECIFIED.

F. SHOP DRAWINGS SHALL BE APPROVED ONLY TO EXTENT OF INFORMATION INDICATED. APPROVAL OF AN ITEM OF EQUIPMENT SHALL NOT BE CONSTRUED TO MEAN APPROVAL FOR COMPONENTS FOR THAT ITEM FOR WHICH CONTRACTOR HAS PROVIDED NO INFORMATION.

G. APPROVAL OF SHOP DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR PROVIDING ALL CONTROLS, WIRING, COMPONENTS, ETC. WHICH ARE SHOWN OR SPECIFIED, OR ALL ADDITIONAL CONTROLS, WIRING, COMPONENTS, ETC. REQUIRED TO PROVIDE COMPLETE AND CORRECTLY OPERATING MECHANICAL SYSTEMS.

H. SUBMIT PRODUCT DATA FOR THE FOLLOWING MANUFACTURED PRODUCTS, ASSEMBLIES, PERSONNEL AND TESTING AGENCIES REQUIRED FOR THIS PROJECT.

1. WALL MOUNTED HEAT PUMP SYSTEM.

2. INSULATION MATERIALS.

3. DETAILED PROCEDURES, AGENDA, SAMPLE REPORT FORMS, AND COPY OF AABC NATIONAL PROJECT PERFORMANCE GUARANTEE.

1.7 SUBSTITUTIONS

A. SHOULD THE CONTRACTOR DESIRE TO SUBSTITUTE ANY MATERIAL, EQUIPMENT OR OTHER ITEMS FOR THOSE SPECIFIED, HE SHALL SUBMIT A COMPLETE LIST, INCLUDING DETAILED EQUIPMENT LAYOUTS AND PERFORMANCE CHARACTERISTICS WITHIN 14 CALENDAR DAYS AFTER THE SCHEDULED START OF CONSTRUCTION. SAID DATA SHALL BE SUBMITTED IN ELECTRONIC FORMAT.

B. THE ENTIRE COST OF ALL CHANGES OF ANY TYPE DUE TO SUBSTITUTION FOR MATERIALS SPECIFIED SHALL BE BORN BY THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.

C. UNSOLICITED AND VOLUNTARY DEDUCTS, ON THE PART OF THE CONTRACTOR FOR SUBSTITUTING UNAPPROVED SYSTEMS AND/OR EQUIPMENT, SHALL NOT BE CONSIDERED FOR THE PURPOSE OF AWARDING THE CONTRACT.

D. THE CONTRACTOR SHALL SUBMIT THE AMOUNT OF COST CREDIT TO THE CONTRACT IN THE EVENT THE PROPOSED SUBSTITUTION IS ACCEPTED.

E. IN ALL CASES WHERE SUBSTITUTIONS ARE PROPOSED AFTER BIDS ARE RECEIVED, THE CONTRACTOR SHALL BEAR THE COST OF EVALUATION ON THE BASIS OF 2-1/2 TIMES TECHNICAL SALARIES OF ENGINEERING PERSONNEL INVOLVED.

1.8 AVAILABILITY OF SPECIFIED EQUIPMENT

A. VERIFY PRIOR TO BIDDING THAT ALL SPECIFIED EQUIPMENT IS AVAILABLE AND CAN BE OBTAINED IN TIME FOR INSTALLATION DURING ORDERLY AND TIMELY PROGRESS OF THE WORK.

B. IN THE EVENT THAT SPECIFIED ITEMS WILL NOT BE SO AVAILABLE, NOTIFY THE OWNER PRIOR TO RECEIPT OF BIDS.

C. COSTS OF DELAYS BECAUSE OF NON-AVAILABILITY OF SPECIFIED ITEMS, WHEN SUCH DELAYS COULD HAVE BEEN AVOIDED BY PROPER INVESTIGATION ON THE PART OF THE CONTRACTOR, WILL BE BACK-CHARGED AS NECESSARY AND SHALL NOT BE BORN BY THE OWNER.

1.9 RECORD DRAWINGS

A. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ONE SET OF WHITE PRINTS OF THE HVAC DRAWINGS, WHICH HE SHALL ALTER IN RED TO SHOW ALL CHANGES MADE TO THE ORIGINAL LAYOUT. THESE DRAWINGS SHALL BE KEPT CURRENT.

B. THE CONTRACTOR SHALL DELIVER THESE COMPLETED TO THE OWNER WHEN THE JOB IS FINISHED AND ACCEPTED PRIOR TO FINAL PAYMENT.

1.10 OPERATION AND MAINTENANCE DATA

A. SUBMIT ELECTRONIC FORMAT SUBMITAL PRIOR TO FINAL INSPECTION, ELECTRONIC FORMAT FILES WITH SEARCHABLE TEXT AND BOOK-MARK. PREPARE WITH TITLE "OPERATION AND MAINTENANCE INSTRUCTIONS", AND TITLE OF PROJECT. INTERNALLY SUBDIVIDE THE FILE WITH BOOK MARK CONTENTS LOGICALLY ORGANIZED AS DESCRIBED BELOW.

B. CONTENTS: PREPARE A TABLE OF CONTENTS WITH EACH PRODUCT OR SYSTEM DESCRIPTION IDENTIFIED.

1. PART 1: DIRECTORY LISTING NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF OWNER, CONTRACTOR, SUBCONTRACTORS, AND MAJOR EQUIPMENT SUPPLIERS.

2. PART 2: OPERATION AND MAINTENANCE INSTRUCTIONS, ARRANGED BY SYSTEM. IDENTIFY THE FOLLOWING:

a. SIGNIFICANT DESIGN CRITERIA.

b. LIST OF EQUIPMENT.

c. PARTS LIST FOR EACH COMPONENT.

d. OPERATING INSTRUCTIONS.

e. MAINTENANCE INSTRUCTIONS FOR EQUIPMENT AND SYSTEMS.

f. MAINTENANCE INSTRUCTIONS FOR SPECIAL FINISHES, INCLUDING RECOMMENDED CLEANING METHODS AND MATERIALS AND SPECIAL PRECAUTIONS IDENTIFYING DETRIMENTAL AGENTS.

C. SUBMIT ONE COPY OF COMPLETED VOLUMES IN FINAL FORM 7 DAYS PRIOR TO FINAL INSPECTION. THIS COPY WILL BE RETURNED AFTER FINAL INSPECTION, WITH OWNER COMMENTS. REVISE CONTENT OF DOCUMENTS AS REQUIRED PRIOR TO FINAL SUBMITTAL.

D. SUBMIT FINAL VOLUMES (REVISED) WITHIN TEN DAYS AFTER FINAL INSPECTION.

1.11 GUARANTEES

A. THE CONTRACTOR, IN ACCEPTING THIS CONTRACT, BINDS HIMSELF TO REPLACE OR REPAIR AT HIS OWN EXPENSE ANY DEFECT IN WORKMANSHIP OR MATERIAL WHICH MAY APPEAR WITHIN A PERIOD OF ONE YEAR FROM THE DATE OF THE FINAL ACCEPTANCE OF THE BUILDING, AND TO PAY FOR ALL RESULTING DAMAGE WHICH SHALL APPEAR WITHIN THE SAID PERIOD: PROVIDED ALWAYS THAT THE CONTRACTOR SHALL NOT BE LIABLE FOR ANYTHING ATTRIBUTABLE TO ACTS OF THE AGENTS OF THE OWNER, OR FOR ORDINARY WEAR. ALSO, GIVEN DATE OF WORK PERFORMED BY THE CONTRACTOR BE ACCEPTED AS COMPLETE, HE SHALL AGREE TO CORRECT ANY DEFICIENCIES OR OMISSIONS IN RESPECT TO THE PLANS OR SPECIFICATIONS WHICH MAY APPEAR IN THE AFORE-MENTIONED TWENTY-FOUR MONTH PERIOD.

B. THE CONTRACTOR GUARANTEES THAT ALL PIPING AS PROVIDED IN THIS SPECIFICATION WILL BE FREE FROM ALL OBSTRUCTIONS, AND THAT ALL PIPING WILL BE TIGHT AND DRIP FREE.

1.12 LOCAL CONDITIONS

A. THE CONTRACTOR AND TRADE SUBMITTING TENDERS ON THIS WORK SHALL VISIT AND WILL BE DEEMED TO HAVE VISITED THE SITE TO ENSURE THAT THEY ARE FAMILIAR WITH ALL CONDITIONS RELATING TO THE WORK. FAILURE TO VISIT THE SITE WILL IN NO WAY RELIEVE THE SUCCESSFUL CONTRACTOR OF THE NECESSITY OF FURNISHING ANY MATERIAL OR PERFORMING ANY WORK THAT MAY BE REQUIRED TO COMPLETE THE WORK IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.

1.13 RULES, REGULATIONS AND CODES

A. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE LATEST CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA BUILDING CODE AND LOCAL RULES AND REGULATIONS, STATE FIRE MARSHAL REGULATIONS, THE SAFETY ORDERS OF THE DIVISION OF INDUSTRIAL SAFETY; THE NATIONAL ELECTRIC CODE; THE STANDARDS OF THE NATIONAL FIRE PROTECTION ASSOCIATION; AMERICAN GAS ASSOCIATION; OCCUPATION AND SAFETY ACT; AMERICAN NATIONAL STANDARDS INSTITUTE; AMERICAN SOCIETY OF MECHANICAL ENGINEERS; AMERICAN SOCIETY FOR TESTING AND MATERIALS; INSTALLATION STANDARDS PUBLISHED BY THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS (IAPMO) AND OTHER APPLICABLE LAWS, CODES, OR REGULATIONS. NOTHING IN THESE SPECIFICATIONS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

B. ELECTRICAL WORK: MOTORS, ELECTRICAL APPARATUS AND WIRING SPECIFIED IN THIS SECTION SHALL CONFORM TO THE NATIONAL ELECTRICAL MANUFACTURER'S STANDARDS AND THE NATIONAL ELECTRIC CODE AND BEAR THE UNDERWRITER'S LABEL OF APPROVAL.

C. THE CONTRACTOR SHALL FURNISH, WITHOUT EXTRA CHARGE, ANY ADDITIONAL MATERIAL AND LABOR WHEN AND WHERE REQUIRED TO COMPLY WITH THESE RULES AND REGULATIONS, THOUGH THE WORK BE NOT MENTIONED IN THESE SPECIFICATIONS OR SHOWN ON THE DRAWINGS, WHEN THESE SPECIFICATIONS OR DRAWINGS CALL FOR OR DESCRIBE MATERIALS OR CONSTRUCTION OF A BETTER QUALITY OR LARGER SIZES THAN REQUIRED BY THE ABOVE MENTIONED RULES AND REGULATIONS, THE PROVISIONS OF THESE SPECIFICATIONS AND ACCOMPANYING DRAWINGS SHALL TAKE PRECEDENCE.

1.14 FEES AND PERMITS

A. THE CONTRACTOR MUST OBTAIN AND PAY ALL FEES FOR PERMITS, LICENSES, INSPECTIONS, ETC., WHICH ARE REQUIRED BY ANY LEGALLY CONSTITUTED AUTHORITY. COORDINATE EXACT REQUIREMENTS WITH THE OWNER PRIOR TO BID.

1.15 COORDINATION

A. FOLLOWING THE GENERAL ARRANGEMENT INDICATED ON THE DRAWINGS AS CLOSELY AS POSSIBLE, THE CONTRACTOR SHALL COORDINATE WITH THE ARCHITECTURAL, STRUCTURAL, PLUMBING, ELECTRICAL AND ALL OTHER TRADES PRIOR TO INSTALLATION OF THE MATERIALS AND EQUIPMENT TO VERIFY ADEQUATE SPACE AVAILABLE FOR INSTALLATION OF THE WORK SHOWN. THE OWNER SHALL BE IMMEDIATELY NOTIFIED IF AN AREA OF CONFLICT OCCURS BETWEEN TRADES.

B. THE CONTRACTOR SHALL BEAR ALL COSTS INCURRED FOR WORK THAT MUST BE RELOCATED DUE TO CONFLICTS BETWEEN TRADES.

C. THE MECHANICAL CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS FOR ALL POINTS OF CONNECTION WITH THE GENERAL CONTRACTOR AND OTHER TRADES PRIOR TO BID.

1.16 DRAWINGS

A. THE WORK SHALL BE INSTALLED AS INDICATED ON DRAWINGS, HOWEVER, CHANGES TO ACCOMMODATE INSTALLATION OF THIS WORK WITH OTHER WORK, OR IN ORDER TO MEET ARCHITECTURAL OR STRUCTURAL CONDITIONS, SHALL BE MADE WITHOUT ADDITIONAL COST TO THE OWNER.

B. FOR THE PURPOSE OF CLARITY AND LEGIBILITY, THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT MANY OFFSETS, BONDS, UNIONS, SPECIAL FITTINGS AND EXACT LOCATIONS ARE NOT INDICATED. THE CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS, AND SHALL VERIFY THIS INFORMATION AT THE SITE.

1.17 INSPECTION

A. THE CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY OF HIS WORK TO BE COVERED UP OR CLOSED IN UNTIL IT HAS BEEN INSPECTED, TESTED, APPROVED BY ALL AUTHORITIES HAVE JURISDICTION, AND UNTIL PROJECT RECORD DRAWINGS HAVE BEEN PROPERLY ANNOTATED.

B. SHOULD ANY OF HIS WORK BE COVERED UP OR CLOSED IN BEFORE SUCH INSPECTION, HE SHALL, AT HIS OWN EXPENSE, UNCOVER THE WORK TO THE SATISFACTION OF THE INSPECTION PARTY. ALL RELATED REPAIR WORK COST SHALL BE BORNE BY THE CONTRACTOR.

1.18 DELIVERY, STORAGE AND PROTECTION OF PROPERTY

A. PLACE ORDERS FOR ALL EQUIPMENT IN TIME TO PREVENT ANY DELAY IN CONSTRUCTION SCHEDULE OR COMPLETION OF PROJECT. IF ANY MATERIALS OR EQUIPMENT ARE NOT ORDERED IN TIME, ADDITIONAL CHARGES MADE BY EQUIPMENT MANUFACTURERS TO COMPLETE THEIR EQUIPMENT IN TIME TO MEET CONSTRUCTION SCHEDULE, TOGETHER WITH ANY SPECIAL HANDLING CHARGES, SHALL BE BORNE BY THE CONTRACTOR.

B. MATERIALS SHALL BE DELIVERED IN AMPLE QUANTITIES FROM TIME TO TIME AS MAY BE NECESSARY FOR THE UNINTERRUPTED PROGRESS OF THE WORK. THEY SHALL BE STORED AS TO CAUSE THE LEAST OBSTRUCTION TO THE PREMISES AND DISTRIBUTED SO AS TO PREVENT OVERLOADING TO ANY PORTION OF THE STRUCTURE.

C. THE CONTRACTOR SHALL PROVIDE TEMPORARY STORAGE AND SHOP AREAS THAT ARE REQUIRED AT THE SITE FOR THE SAFE AND PROPER STORAGE OF MATERIALS, TOOLS, AND OTHER ITEMS USED IN THE PERFORMANCE OF THIS WORK. THESE AREAS SHALL BE CONSTRUCTED ONLY IN APPROVED LOCATIONS AND SHALL NOT INTERFERE WITH THE WORK OF ANY OTHER CONTRACTOR.

D. ALL WORK, EQUIPMENT AND MATERIALS SHALL BE PROTECTED AT ALL TIMES. THE CONTRACTOR SHALL MAKE GOOD ALL DAMAGE CAUSED EITHER DIRECTLY OR INDIRECTLY BY HIS OWN WORKMEN. THE CONTRACTOR SHALL ALSO PROTECT HIS OWN WORK FROM DAMAGE. HE SHALL CLOSE ALL PIPE AND DUCT OPENINGS WITH CAPS OR PLUGS DURING INSTALLATION. HE SHALL PROTECT ALL OF HIS EQUIPMENT AND MATERIALS AGAINST DIRT, WATER, CHEMICAL, AND MECHANICAL INJURY. UPON COMPLETION, ALL WORK SHALL BE THOROUGHLY CLEANED AND DELIVERED IN A NEW CONDITION.

1.19 DAMAGE BY LEAKS, ETC.

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES OR WORK OF OTHER CONTRACTORS, CAUSED BY LEAKS OR BREAKS IN THE PIPING OR EQUIPMENT FURNISHED AND/OR INSTALLED UNDER THIS SECTION, DURING THE CONSTRUCTION AND GUARANTEE PERIOD.

1.20 ACCESS TO EQUIPMENT FOR MAINTENANCE

A. INSTALL ALL EQUIPMENT, PIPING, ETC. TO PERMIT ACCESS FOR NORMAL MAINTENANCE. MAINTAIN EASY ACCESS TO FILTERS, MOTORS, ETC. INSTALL ALL SUCH EQUIPMENT AND ACCESSORIES TO FACILITATE MAINTENANCE. PERFORM ANY RELOCATION OF PIPES, ETC. REQUIRED TO PERMIT ACCESS AT REQUEST OF OWNER AT NO ADDITIONAL COST TO OWNER.

B. FURNISH AND INSTALL ACCESS DOORS OR PANELS IN WALLS, FLOORS, AND CEILINGS TO PERMIT ACCESS TO EQUIPMENT, DAMPERS, AND ALL OTHER ITEMS REQUIRING SERVICE. COORDINATE LOCATION OF ACCESS DOORS WITH OTHER TRADES AS REQUIRED.

C. SIZE ACCESS PANELS TO ALLOW INSPECTION AND REMOVAL OF ALL ITEMS SERVED.

D. USE MILCOR STYLE AS REQUIRED FOR MATERIAL IN WHICH DOOR IS INSTALLED. WHERE DOOR IS INSTALLED IN FIRE RATED CONSTRUCTION, PROVIDE DOOR BEARING UL LABEL REQUIRED FOR CONDITION.

2. PART 2 - PRODUCTS

2.1 GENERAL

A. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND OF THE BEST OF THEIR RESPECTIVE GRADES, FREE FROM ALL DEFECTS AND OF THE MAKE, BRAND OR QUALITY HEREIN SPECIFIED OR AS ACCEPTED BY THE OWNER.

B. ALL MATERIALS AND EQUIPMENT SHALL BE IDENTIFIED BY MANUFACTURER'S NAME OR NAMEPLATE DATA. UNIDENTIFIED MATERIAL OR EQUIPMENT SHALL BE REMOVED FROM THE SITE.

C. EQUIPMENT SPECIFIED BY MANUFACTURER'S NUMBER SHALL INCLUDE ALL ACCESSORIES, CONTROLS, ETC., LISTED IN THE CATALOG AS STANDARD WITH THE EQUIPMENT. OPTIONAL OR ADDITIONAL ACCESSORIES SHALL BE FURNISHED AS SPECIFIED.

D. WHERE NO SPECIFIC MAKE OF MATERIAL OR EQUIPMENT IS MENTIONED, ANY FIRST CLASS PRODUCT OF A REPUTABLE MANUFACTURER MAY BE USED, PROVIDED IT CONFORMS TO THE REQUIREMENTS OF THE SYSTEM AND MEETS WITH THE APPROVAL OF THE OWNER.

E. EQUIPMENT AND MATERIALS DAMAGED DURING TRANSPORTATION, INSTALLATION AND OPERATION SHALL BE CONSIDERED AS "TOTALLY DAMAGED" AND SHALL BE REPLACED WITH NEW. ANY VARIANCE FROM THIS CLAUSE SHALL BE MADE ONLY WITH WRITTEN APPROVAL OF THE OWNER.

2.2 MANUFACTURER

A. EXHAUST FANS

1. GREENHECK.

2. LOREN COOK.

3. OR APPROVED EQUAL.

B. PACKAGE ROOF TOP HEAT PUMP UNITS

1. CARRIER.

2. TRANE.

3. YORK.

C. MINI-SPLIT HEAT PUMP UNITS

1. CARRIER.

2. TRANE.

3. OR APPROVED EQUAL.

D. VARIABLE VOLUME AND TEMPERATURE SYSTEM(VVT)

1. CARRIER.

2.3 CONTROLS

A. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER COORDINATION OF ALL CONTROL WORK AND ELECTRICAL WORK IN CONNECTION THEREWITH. HE SHALL ALSO BE RESPONSIBLE FOR THE PROPER OPERATION OF THE ENTIRE SYSTEM.

B. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LINE VOLTAGE CONTROL WIRING, AND IN ALL CONDUIT. WIRE SIZING AND LENGTH OF RUN SHALL BE COORDINATED WITH THE MANUFACTURER AND ELECTRICAL ENGINEER.

C. ELECTRICAL WORK: ALL ELECTRIC RELAYS, HAND-OFF AUTOMATIC SWITCHES AND ALL ELECTRICAL WIRING AND ALL CONDUIT WILL BE PROVIDED UNDER THE ELECTRICAL SECTION, EXCEPT AS OTHERWISE SPECIFIED. FURNISH AND INSTALL ADDITIONAL CONDUIT, WIRING, RELAYS, HAND-OFF AUTOMATIC SWITCHES MADE NECESSARY BY THE USE OF APPROVED SUBSTITUTED EQUIPMENT UNDER THIS SECTION WITH NO ADDITIONAL COST TO THE OWNER.

D. REFER TO DRAWINGS FOR CONTROL DIAGRAMS AND ADDITIONAL REQUIREMENTS.

E. CALIBRATION OF CONTROLS: THE CONTRACTOR SHALL CAREFULLY CALIBRATE AND ADJUST ALL CONTROLS AS REQUIRED TO MAINTAIN COMFORT CONDITIONS AND MAXIMUM ENERGY CONSERVATION.

F. WHERE STAND-ALONE CONTROLS ARE INDICATED, MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOW VOLTAGE CONTROLS CONDUIT, WIRING, AND THERMOSTAT.

2.4 INSULATION

A. GENERAL:

1. ALL INSULATION SHALL HAVE COMPOSITE (INSULATION, JACKET OR FACING, AND ADHESIVE USED TO ADHERE THE FACING OR JACKET TO THE INSULATION) FIRE SMOKE HAZARD RATINGS AS TESTED BY PROCEDURE ASTM E84, NFPA 255 AND UL 723 NOT EXCEEDING:

FLAME SPREAD: 25

SMOKE DEVELOPED: 50

2. ALL PRODUCTS OR THEIR SHIPPING CARTONS SHALL BEAR A LABEL INDICATING THAT FLAME AND SMOKE RATINGS DO NOT EXCEED ABOVE REQUIREMENTS. ANY TREATMENT OF JACKETS OR FACINGS TO IMPART FLAME AND SMOKE SAFETY SHALL MEET THE ABOVE REQUIREMENTS.

3. THE CONTRACTOR SHALL CERTIFY THAT ALL PRODUCTS USED HAVE MET THE ABOVE CRITERIA.

4. THE INSULATION VALUES SHOWN ARE A MINIMUM. IF THE REQUIREMENTS OF TITLE 24 EXCEED THESE VALUES, THE AMOUNT OF AND/OR TYPE MUST BE INCREASED TO MEET THE TITLE 24 REQUIREMENTS.

AGENCY APPROVAL

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DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — ROBERT BANKERT — No. M29253 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE

MECHANICAL SPECIFICATIONS

SHEET #

M-003

MECHANICAL SPECIFICATIONS

3.1 INSTALLATION

A. EQUIPMENT INSTALLATION:
1. ALL EQUIPMENT PROVIDED UNDER THIS SECTION OF THE SPECIFICATIONS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
2. SHOULD THE DRAWINGS OR SPECIFICATIONS INDICATE THE EQUIPMENT IS TO BE INSTALLED IN A MANNER NOT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS; THE CONTRACTOR SHALL OBTAIN DIRECTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE INSTALLATION. IF THE CONTRACTOR PROCEEDS WITH THE INSTALLATION WITHOUT OBTAINING DIRECTION FROM THE ENGINEER, THE CONTRACTOR SHALL BE REQUIRED TO MAKE ALL REQUIRED CORRECTIONS TO THE INSTALLATION AT NO ADDITIONAL COST TO THE CONTRACT.
3. INSTALL ALL EQUIPMENT IN LOCATIONS INDICATED ON THE DRAWINGS. CONTRACTOR WILL BE RESPONSIBLE TO VERIFY WITH THE OWNER, IF SUITABILITY IS DOUBTED. CONTRACTOR SHALL NOTIFY THE OWNER BEFORE INSTALLATION INTO ANY APPARENT IMPROPER LOCATIONS OF INTERFERENCE WITH OTHER WORK SUCH AS ELECTRICAL OUTLETS, WINDOWS, CABINETWORK OR OTHER FEATURES.
4. SPACE CONSIDERATION:
   a. CERTAIN EQUIPMENT AND DUCTWORK WILL HAVE TO BE INSTALLED WITHIN THE LIMITED SPACE AVAILABLE AS INDICATED ON THE DRAWINGS.
   b. EXACT FIELD MEASUREMENTS OF EXISTING CONDITIONS WILL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO ASSURE THAT THE EQUIPMENT AND DUCTWORK TO BE INSTALLED UNDER THIS SECTION OF THE SPECIFICATIONS CAN BE INSTALLED AS INDICATED.
   c. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO INSTALLATION.
   d. THESE FIELD VERIFIED DIMENSIONS SHALL BE MADE PRIOR TO PURCHASE OF EQUIPMENT OR FABRICATION OF DUCTWORK.
4. LINE ALL DUCT AS INDICATED ON MECHANICAL SHEETS. LINE DUCTWORK AS PER GENERAL NOTES, INCLUDING BUT NOT LIMITED TO ALL DUCTWORK AT BYPASS DAMPER CONNECTION LOCATIONS.

B. ROOF AND WALL FLASHINGS:
1. DUCTS PENETRATING ROOF SHALL HAVE TWENTY-TWO (22) GAUGE SHEET METAL FLASHING WITH A MINIMUM OF TEN INCHES (10") OF THE BASE EXTENDED ON TO THE ROOF, OR ROOF CURB, AS INDICATED ON THE DRAWINGS.
2. DUCTS THROUGH WALLS SHALL BE SEALED WITH GALVANIZED ANGLE IRON ON ALL SIDES.
3. WHERE REQUIRED OR INDICATED, A WEATHER HOOD CONSTRUCTED OF GALVANIZED SHEET METAL WITH GALVANIZED BIRDSCREEN SHALL BE PROVIDED.
4. REFRIGERANT PIPING PENETRATING ROOF SHALL PROVIDE LEAD FREE FLASHING AND COUNTER FLASHING.

C. OPENINGS THROUGH WALLS AND ROOF:
1. FRAMED OPENINGS IN WALLS AND ROOF FOR DUCTWORK TO BE COORDINATED IN ADVANCE OF THE WORK. INSTALLER SHALL FURNISH SHOP DRAWINGS SHOWING THE CORRECT DIMENSIONS AND LOCATIONS OF THE REQUIRED OPENINGS.
2. THE CONTRACTOR SHALL PROVIDE AND INSTALL "LINE-SEALS" WHERE PIPES PASS THROUGH MASONRY WALLS OR FLOORS.
3. ALL PIPES PASSING THROUGH WALLS, FLOORS, CEILINGS, AND PARTITIONS IN FINISHED PORTIONS OF THE BUILDINGS SHALL BE PROVIDED WITH CHROMIUM PLATED, CAST BRASS, SET SCREW PLATES.
4. WHERE SLEEVES AND PLATES ARE INSTALLED AROUND INSULATED PIPES, THEY SHALL BE OF SUFFICIENT SIZE TO ALLOW THE INSULATION TO GO THROUGH THEM, PRESENTING A NEAT FINISH.

D. SLEEVES AND SEALS: (PROVIDE FOR PIPES PASSING THROUGH WALLS OR FLOOR SLABS).
1. SHEET-METAL SLEEVES (ABOVE GRADE): 10-GAUGE, GALVANIZED SHEET METAL, ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.
2. STEEL SLEEVES (BELOW GRADE): 10-GAUGE, GALVANIZED SHEET METAL, ROUND TUBE CLOSED WITH WELDED LONGITUDINAL JOINT.
3. POLYETHYLENE SLEEVES (ABOVE GRADE): MANUFACTURER'S STANDARD PRODUCT.
4. MECHANICAL SLEEVE SEALS (INSTALL WHERE INDICATED ON DRAWINGS): MODULAR MECHANICAL TYPE, CONSISTING OF INTERLOCKING SYNTHETIC RUBBER LINKS SHAPED TO CONTINUOUSLY FILL ANNULAR SPACE BETWEEN PIPE AND SLEEVE, CONNECTED WITH BOLTS AND PRESSURE PLATES WHICH CAUSE RUBBER SEALING ELEMENTS TO EXPAND WHEN TIGHTENED, PROVIDING WATERTIGHT SEAL AND ELECTRICAL INSULATION.
5. ISOLATE PIPES THROUGH GROUND FLOOR SLEEVES WITH KRAFT PAPER, PLASTIC TAPE OR SIMILAR MATERIALS.
6. PACK SPACE BETWEEN PIPE AND SLEEVE WITH CERAMIC FIBER AND DOW FIRE STOP NO. UL827U SEALANT SO AS TO ABSOLUTELY FIREPROOF AND WATERTIGHT.

E. DUCTWORK AND ACCESSORIES:
1. PROVIDE OPENINGS IN DUCTWORK WHERE REQUIRED TO ACCOMMODATE THERMOMETERS AND CONTROLLERS. PROVIDE PILOT TUBE OPENINGS WHERE REQUIRED FOR TESTING OF SYSTEMS, COMPLETE WITH METAL CAN WITH SPRING DEVICE OR SCREW TO ENSURE AGAINST AIR LEAKAGE. WHERE OPENINGS ARE PROVIDED IN INSULATED DUCTWORK, INSTALL INSULATION MATERIAL INSIDE A METAL RING.
2. LOCATE DUCTS WITH SUFFICIENT SPACE AROUND EQUIPMENT TO ALLOW NORMAL OPERATING AND MAINTENANCE ACTIVITIES.
3. INSTALL ACCESSORIES IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND PER SEISMIC NOTE ON MECHANICAL SHEET M-0.1.
4. PROVIDE BALANCING DAMPERS AT POINTS ON LOW-PRESSURE SUPPLY, RETURN, AND EXHAUST SYSTEMS WHERE BRANCHES ARE TAKEN FROM LARGER DUCTS AS REQUIRED FOR AIR BALANCING. USE SPLITTER DAMPERS ONLY WHERE INDICATED.
5. PROVIDE FLEXIBLE CONNECTIONS IMMEDIATELY ADJACENT TO EQUIPMENT IN DUCTS ASSOCIATED WITH FANS AND MOTORIZED EQUIPMENT.
6. PROVIDE DUCT ACCESS DOORS FOR INSPECTION AND CLEANING BEFORE AND AFTER FILTERS, COILS, FANS, AUTOMATIC DAMPERS, AT FIRE DAMPERS, AND ELSEWHERE AS INDICATED. PROVIDE MINIMUM 8 X 8 INCH SIZE FOR HAND ACCESS, 18 X 18 INCH SIZE FOR SHOULDER ACCESS, AND AS INDICATED.
7. PROVIDE DUCT TEST HOLES WHERE INDICATED AND REQUIRED FOR TESTING AND BALANCING PURPOSES.
8. CHECK LOCATION OF OUTLETS AND INLETS AND MAKE NECESSARY ADJUSTMENTS IN POSITION TO CONFORM TO ARCHITECTURAL FEATURES, SYMMETRY, AND LIGHTING ARRANGEMENT.
9. INSTALL DIFFUSERS TO DUCTWORK WITH AIRTIGHT CONNECTION.
10. PROVIDE BALANCING DAMPERS ON DUCT TAKE-OFF TO DIFFUSERS AND REGISTERS, REGARDLESS OF WHETHER DAMPERS ARE SPECIFIED AS PART OF THE DIFFUSER, OR REGISTER ASSEMBLY.
11. PAINT DUCTWORK VISIBLE BEHIND AIR OUTLETS AND INLETS MATTE BLACK.
12. HANGER STRAPS TO TURN UNDER BOTTOM OF RECTANGULAR DUCTS AND SHALL ATTACH WITH SHEET METAL SCREWS AT THIS POINT AS WELL AS MINIMUM TWO (2) ADDITIONAL SCREWS INTO SIDES OF DUCT FOR SIZES EIGHTEEN INCHES (18") AND UNDER THREE (3) SCREWS FOR SIZES ABOVE EIGHTEEN INCHES (18). (TYPICAL FOR EACH STRAP). DUCTS IN SIZES ABOVE FORTY-EIGHT INCHES (48") SHALL RUN CONTINUOUS UNDER BOTTOM OF DUCT. STRAPS FOR ROUND DUCT SHALL RUN COMPLETELY AROUND UNDERSIDE OF DUCT AND SHALL BE SECURED IN PLACE WITH MINIMUM OF TWO (2) SHEET METAL SCREWS EACH SIDE.
    a. STRAP INSTALLATION: IN GENERAL, PROVIDE IN ACCORDANCE WITH SMACNA DUCT INSTALLATION STANDARDS. CONTRACTOR MAY REQUEST APPROVAL OF ALTERNATE SUPPORT METHODS TO TYPE SPECIFIED. SHOP DRAWINGS WILL BE REQUIRED.
    b. CONCRETE: SECURE SUPPORTS TO CONCRETE WITH CONCRETE INSERTS. BRANCH DUCTWORK IN SIZES EIGHTEEN INCH (18") AND SMALLER MAY BE SECURED BY POWER ACTUATED FASTENERS. CONTRACTOR SHALL SUBMIT SIZES AND MAXIMUM LOADING DATA.
    c. BRACING ALL DUCTWORK LATERALLY TO STRUCTURAL FRAMING TO PREVENT SWAYING OR LATERAL MOVEMENT PER BRACING DETAILS ON PLANS PER SEISMIC NOTE ON MECHANICAL SHEET M-01.
13. TURNING VANES: ALL ELBOWS HAVING A CENTERLINE RADIUS LESS THAN THE WIDTH OF THE DUCT SHALL BE SQUARE ELBOWS WITH TURNING VANES, OR PROPER RADIUS AND SPACING. THESE TURNING VANES SHALL BE MULTI-VANE TYPE AND SHALL BE CAREFULLY INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. PROVIDE TURNING VANES FOR DUCT WIDTHS OF 18 INCHES OR GREATER. PROVIDE SINGLE THICKNESS VANES FOR DUCTS OF LESS THAN 18 INCHES. CONTRACTOR MAY SUBMIT FOR APPROVAL SHOP FABRICATED VANES CONFORMING TO SMACNA DUCT MANUAL STANDARD. WHERE REQUIRED OR INDICATED ON DRAWINGS, PROVIDE ACOUSTIC TURNING VANES CONSTRUCTED OF AIR FOIL SHAPED ALUMINUM EXTRUSION WITH PERFORATED FACES AND FIBERGLASS FILL.
14. FLEXIBLE DUCT CONNECTIONS: SHALL BE PROVIDED WHERE INDICATED AS REQUIRED AND SHALL BE "VENT-GLASS", "VENTBESTOS", OR DURO-DYNE DUROLAN SUPER METAL-FAB.
15. DUCT TAPE AND SEALER:
    a. ALL LONGITUDINAL SNAP LOCK JOINTS SHALL BE MADE AIRTIGHT WITH HIGH PRESSURE DUCT SEALANT TREMCO J.S. 773, GREY A.F., AND TRANSVERSE JOINTS SEALED WITH HARDCAST AFG NO. 1402 FOIL GRIP INSTANT TAPE SEALANT FOR RECTANGULAR DUCTS AND ROUND DUCTS, ALL U.L. CLASSIFIED. AT CONTRACTOR'S OPTION, ALL ROUND DUCT TRANSVERSE JOINTS MAY BE MADE WITH MIRACLE D-619 WATER BASED, DUCT SEALANT U.L. CLASSIFIED 309U AS MANUFACTURED BY MIRACLE ADHESIVES CORP.
    b. EXPOSED OUTDOOR DUCTWORK SHALL BE SEALED AS DESCRIBED HEREIN AND, IN ADDITION, ALL TRANSVERSE JOINTS SHALL BE COVERED WITH GLENKOTE "SEAL-FLEX".

F. THERMOSTATS AND OVER-RIDE SWITCHES:
1. INSTALL AT 48" ABOVE FINISHED FLOOR UNLESS OTHERWISE STATED.
2. COORDINATE WITH OTHER TRADES.
3. ALL THERMOSTATS AND OVER-RIDE SWITCHES SHALL BE BY SIEMENS.
4. CONTROLS CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING, FURNISHING ALL CONTROLS AND WIRING FOR TIE-IN OF THERMOSTATS TO NEW BUILDING ENERGY MANAGEMENT SYSTEM AND SHALL CO-ORDINATE ALL REQUIREMENTS WITH OTHER TRADES INCLUDING NOTIFYING ELECTRICAL CONTRACTOR OF NECESSARY CONDUIT AND POWER REQUIREMENTS.
5. ALL COSTS FOR SCOPE OF WORK SHALL BE SUBMITTED FOR FINAL BID.
6. ALL CONTROL CONDUITS SHALL BE BY CONTROLS CONTRACTOR.

G. INSULATION:
1. DUCT INSULATION:
   a. UNLESS SPECIFICALLY INDICATED ON THE DRAWINGS THE CONTRACTOR MAY LINE OR WRAP DUCTWORK TO MEET INSULATION REQUIREMENTS.
   b. FIBERGLASS DUCT WRAP:
      1) SECURE INSULATION WITH VAPOR BARRIER WITH WIRES AND SEAL JACKET JOINTS WITH VAPOR BARRIER ADHESIVE OR TAPE TO MATCH JACKET.
      2) SECURE INSULATION WITHOUT VAPOR BARRIER WITH STAPLES, TAPE, OR WIRES.
      3) INSTALL WITHOUT SAG ON UNDERSIDE OF DUCTWORK. USE ADHESIVE OR MECHANICAL FASTENERS WHERE NECESSARY TO PREVENT SAGGING. LIFT DUCTWORK OFF TRAPEZE HANGERS AND INSERT SPACERS.
      4) SEAL VAPOR BARRIER PENETRATIONS BY MECHANICAL FASTENERS WITH VAPOR BARRIER ADHESIVE.
      5) STOP AND POINT INSULATION AROUND ACCESS DOORS AND DAMPER OPERATORS TO ALLOW OPERATION WITHOUT DISTURBING WRAPPING.
   c. DUCT (AND PLENUM) LINER APPLICATION:
      1) INSTALL AS INDICATED (SOUND LINING) ON THE DRAWINGS.
      2) ADHERE INSULATION WITH ADHESIVE FOR 100 PERCENT COVERAGE. SECURE INSULATION WITH MECHANICAL LINER FASTENERS. REFER TO SMACNA STANDARDS FOR SPACING. SEAL AND SMOOTH JOINTS. SEAL LINER SURFACE PENETRATIONS WITH ADHESIVE.
      3) DUCT DIMENSIONS INDICATED ARE OUTSIDE DIMENSIONS REQUIRED FOR AIRFLOW.

3.2 PIPING APPLICATIONS FOR REFRIGERANT R-410A

A. SUCTION LINES NPS 2 (DN 50) AND SMALLER FOR CONVENTIONAL AIR-CONDITIONING APPLICATIONS: COPPER, TYPE ACR, STRAIGHT ANNEALED-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED OR SOLDERED JOINTS.

B. HOT-GAS AND LIQUID LINES, AND SUCTION LINES FOR HEAT-PUMP APPLICATIONS: COPPER, TYPE ACR, STRAIGHT ANNEALED- OR DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED OR SOLDERED JOINTS.

C. SAFETY-RELIEF-VALVE DISCHARGE PIPING: COPPER, TYPE ACR, STRAIGHT ANNEALED- OR DRAWN-TEMPER TUBING AND WROUGHT-COPPER FITTINGS WITH BRAZED OR SOLDERED JOINTS.

D. NO COILED TEMPER (SOFT ANNEALED), ACR, SHALL BE USED IN THIS PROJECT.

3.4 PIPING INSTALLATION

A. DRAWING PLANS, SCHEMATICS, AND DIAGRAMS INDICATE GENERAL LOCATION AND ARRANGEMENT OF PIPING SYSTEMS; INDICATED LOCATIONS AND ARRANGEMENTS WERE USED TO SIZE PIPE AND CALCULATE FRICTION LOSS, EXPANSION, PUMP SIZING, AND OTHER DESIGN CONSIDERATIONS. INSTALL PIPING AS INDICATED UNLESS DEVIATIONS TO LAYOUT ARE APPROVED ON SHOP DRAWINGS.

B. INSTALL REFRIGERANT PIPING ACCORDING TO ASHRAE 15.

C. INSTALL PIPING IN CONCEALED LOCATIONS UNLESS OTHERWISE INDICATED AND EXCEPT IN EQUIPMENT ROOMS AND SERVICE AREAS.

D. INSTALL PIPING INDICATED TO BE EXPOSED AND PIPING IN EQUIPMENT ROOMS AND SERVICE AREAS AT RIGHT ANGLES OR PARALLEL TO BUILDING WALLS. DIAGONAL RUNS ARE PROHIBITED UNLESS SPECIFICALLY INDICATED OTHERWISE.

E. INSTALL PIPING ABOVE ACCESSIBLE CEILINGS TO ALLOW SUFFICIENT SPACE FOR CEILING PANEL REMOVAL.

F. INSTALL PIPING ADJACENT TO MACHINES TO ALLOW SERVICE AND MAINTENANCE.

G. INSTALL PIPING FREE OF SAGS AND BENDS.

H. INSTALL FITTINGS FOR CHANGES IN DIRECTION AND BRANCH CONNECTIONS.

I. SELECT SYSTEM COMPONENTS WITH PRESSURE RATING EQUAL TO OR GREATER THAN SYSTEM OPERATING PRESSURE.

J. INSTALL PIPING AS SHORT AND DIRECT AS POSSIBLE, WITH A MINIMUM NUMBER OF JOINTS, ELBOWS, AND FITTINGS.

K. ARRANGE PIPING TO ALLOW INSPECTION AND SERVICE OF REFRIGERATION EQUIPMENT. INSTALL VALVES AND SPECIALTIES IN ACCESSIBLE LOCATIONS TO ALLOW FOR SERVICE AND INSPECTION. INSTALL ACCESS DOORS OR PANELS AS SPECIFIED IN PLANS IF VALVES OR EQUIPMENT REQUIRING MAINTENANCE IS CONCEALED BEHIND FINISHED SURFACES.

L. INSTALL REFRIGERANT PIPING IN PROTECTIVE CONDUIT WHERE INSTALLED BELOWGROUND.

M. INSTALL REFRIGERANT PIPING IN RIGID OR FLEXIBLE CONDUIT IN LOCATIONS WHERE EXPOSED TO MECHANICAL INJURY.

N. SLOPE REFRIGERANT PIPING AS FOLLOWS:
1. INSTALL HORIZONTAL HOT-GAS DISCHARGE PIPING WITH A UNIFORM SLOPE DOWNWARD AWAY FROM COMPRESSOR.
2. INSTALL HORIZONTAL SUCTION LINES WITH A UNIFORM SLOPE DOWNWARD TO COMPRESSOR.
3. INSTALL TRAPS AND DOUBLE RISERS TO ENTRAIN OIL IN VERTICAL RUNS.
4. LIQUID LINES MAY BE INSTALLED LEVEL.

O. WHEN BRAZING OR SOLDERING, REMOVE SOLENOID-VALVE COILS AND SIGHT GLASSES; ALSO REMOVE VALVE STEMS, SEATS, AND PACKING, AND ACCESSIBLE INTERNAL PARTS OF REFRIGERANT SPECIALTIES. DO NOT APPLY HEAT NEAR EXPANSION-VALVE BULB.

P. BEFORE INSTALLATION OF STEEL REFRIGERANT PIPING, CLEAN PIPE AND FITTINGS USING THE FOLLOWING PROCEDURES:
1. SHOT BLAST THE INTERIOR OF PIPING.
2. REMOVE COARSE PARTICLES OF DIRT AND DUST BY DRAWING A CLEAN, LINTLESS CLOTH THROUGH TUBING BY MEANS OF A WIRE OR ELECTRICIAN'S TAPE.
3. DRAW A CLEAN, LINTLESS CLOTH SATURATED WITH TRICHLOROETHYLENE THROUGH THE TUBE OR PIPE. CONTINUE THIS PROCEDURE UNTIL CLOTH IS NOT DISCOLORED BY DIRT.
4. DRAW A CLEAN, LINTLESS CLOTH, SATURATED WITH COMPRESSOR OIL, SQUEEZED DRY, THROUGH THE TUBE OR PIPE TO REMOVE REMAINING LINT. INSPECT TUBE OR PIPE VISUALLY FOR REMAINING DIRT AND LINT.
5. FINALLY, DRAW A CLEAN, DRY, LINTLESS CLOTH THROUGH THE TUBE OR PIPE.
6. SAFETY-RELIEF-VALVE DISCHARGE PIPING IS NOT REQUIRED TO BE CLEANED BUT IS REQUIRED TO BE OPEN TO ALLOW UNRESTRICTED FLOW.
7. INSTALL PIPING WITH ADEQUATE CLEARANCE BETWEEN PIPE AND ADJACENT WALLS AND HANGERS OR BETWEEN PIPES FOR INSULATION INSTALLATION.

3.5 PIPE JOINT CONSTRUCTION

A. REAM ENDS OF PIPES AND TUBES AND REMOVE BURRS. BEVEL PLAIN ENDS OF STEEL PIPE.

B. REMOVE SCALE, SLAG, DIRT, AND DEBRIS FROM INSIDE AND OUTSIDE OF PIPE AND FITTINGS BEFORE ASSEMBLY.

C. FILL PIPE AND FITTINGS WITH AN INERT GAS (NITROGEN OR CARBON DIOXIDE), DURING BRAZING OR WELDING, TO PREVENT SCALE FORMATION.

D. SOLDERED JOINTS: CONSTRUCT JOINTS ACCORDING TO ASTM B 828 OR CDA'S "COPPER TUBE HANDBOOK."

E. BRAZED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS'S "BRAZING HANDBOOK," CHAPTER "PIPE AND TUBE."
1. USE TYPE BCUP (COPPER-PHOSPHORUS) ALLOY FOR JOINING COPPER SOCKET FITTINGS WITH COPPER PIPE.
2. USE TYPE BAG (CADMIUM-FREE SILVER) ALLOY FOR JOINING COPPER WITH BRONZE OR STEEL.

F. THREADED JOINTS: THREAD STEEL PIPE WITH TAPERED PIPE THREADS ACCORDING TO ASME B1.20.1. CUT THREADS FULL AND CLEAN USING SHARP DIES. REAM THREADED PIPE ENDS TO REMOVE BURRS AND TO RESTORE FULL ID. JOIN PIPE FITTINGS AND VALVES AS FOLLOWS:
1. APPLY APPROPRIATE TAPE OR THREAD COMPOUND TO EXTERNAL PIPE THREADS UNLESS DRY-SEAL THREADING IS SPECIFIED.
2. DAMAGED THREADS: DO NOT USE PIPE OR PIPE FITTINGS WITH THREADS THAT ARE CORRODED OR DAMAGED. DO NOT USE PIPE SECTIONS THAT HAVE CRACKED OR OPEN WELDS.

G. STEEL PIPE CAN BE THREADED, BUT THREADED JOINTS MUST BE SEAL BRAZED OR SEAL WELDED.

H. WELDED JOINTS: CONSTRUCT JOINTS ACCORDING TO AWS D10.12M/D10.12.

I. FLANGED JOINTS: SELECT APPROPRIATE GASKET MATERIAL, SIZE, TYPE, AND THICKNESS FOR SERVICE APPLICATION. INSTALL GASKET CONCENTRICALLY POSITIONED. USE SUITABLE LUBRICANTS ON BOLT THREADS.

3.6 HANGERS AND SUPPORTS

A. INSTALL THE FOLLOWING PIPE ATTACHMENTS:
1. ADJUSTABLE STEEL CLEVIS HANGERS FOR INDIVIDUAL HORIZONTAL RUNS LESS THAN 20 FEET (6 M) LONG.
2. ROLLER HANGERS AND SPRING HANGERS FOR INDIVIDUAL HORIZONTAL RUNS 20 FEET (6 M) OR LONGER.
3. PIPE ROLLER: MSS SP-58, TYPE 44 FOR MULTIPLE HORIZONTAL PIPING 20 FEET (6 M) OR LONGER, SUPPORTED ON A TRAPEZE.
4. SPRING HANGERS TO SUPPORT VERTICAL RUNS.
5. COPPER-CLAD HANGERS AND SUPPORTS FOR HANGERS AND SUPPORTS IN DIRECT CONTACT WITH COPPER PIPE.

B. INSTALL HANGERS FOR COPPER TUBING WITH THE FOLLOWING MAXIMUM SPACING AND MINIMUM ROD DIAMETERS:
1. NPS 1/2 (DN 15): MAXIMUM SPAN, 60 INCHES (1500 MM); MINIMUM ROD, 1/4 INCH (6.4 MM).
2. NPS 5/8 (DN 18): MAXIMUM SPAN, 60 INCHES (1500 MM); MINIMUM ROD, 1/4 INCH (6.4 MM).
3. NPS 1 (DN 25): MAXIMUM SPAN, 72 INCHES (1800 MM); MINIMUM ROD, 1/4 INCH (6.4 MM).
4. NPS 1-1/4 (DN 32): MAXIMUM SPAN, 96 INCHES (2400 MM); MINIMUM ROD, 3/8 INCH (9.5 MM).
5. NPS 1-1/2 (DN 40): MAXIMUM SPAN, 96 INCHES (2400 MM); MINIMUM ROD, 3/8 INCH (9.5 MM).
6. NPS 2 (DN 50): MAXIMUM SPAN, 96 INCHES (2400 MM); MINIMUM ROD, 3/8 INCH (9.5 MM).

3.7 FIELD QUALITY CONTROL

A. PERFORM THE FOLLOWING TESTS AND INSPECTIONS:
1. COMPLY WITH ASME B31.5, CHAPTER VI.
2. TEST REFRIGERANT PIPING, SPECIALTIES, AND RECEIVERS. ISOLATE COMPRESSOR, CONDENSER, EVAPORATOR, AND SAFETY DEVICES FROM TEST PRESSURE IF THEY ARE NOT RATED ABOVE THE TEST PRESSURE.
3. TEST HIGH- AND LOW-PRESSURE SIDE PIPING OF EACH SYSTEM SEPARATELY AT NOT LESS THAN THE PRESSURES INDICATED IN "PERFORMANCE REQUIREMENTS" ARTICLE.
   a. FILL SYSTEM WITH NITROGEN TO THE REQUIRED TEST PRESSURE.
   b. SYSTEM SHALL MAINTAIN TEST PRESSURE AT THE MANIFOLD GAGE THROUGHOUT DURATION OF TEST.
   c. TEST JOINTS AND FITTINGS WITH ELECTRONIC LEAK DETECTOR OR BY BRUSHING A SMALL AMOUNT OF SOAP AND GLYCERIN SOLUTION OVER JOINTS.
   d. REMAKE LEAKING JOINTS USING NEW MATERIALS AND RETEST UNTIL SATISFACTORY RESULTS ARE ACHIEVED.
4. COMPLY WITH BRACING DETAILS ON PLANS PER SEISMIC NOTE ON MECHANICAL SHEET M-01.

B. PREPARE TEST AND INSPECTION REPORTS.

3.8 SYSTEM CHARGING

A. CHARGE SYSTEM USING THE FOLLOWING PROCEDURES:
1. INSTALL CORE IN FILTER DRYERS AFTER LEAK TEST BUT BEFORE EVACUATION.
2. EVACUATE ENTIRE REFRIGERANT SYSTEM WITH A VACUUM PUMP TO 500 MICROMETERS (67 PA). IF VACUUM HOLDS FOR 12 HOURS, SYSTEM IS READY FOR CHARGING.
3. BREAK VACUUM WITH REFRIGERANT GAS, ALLOWING PRESSURE TO BUILD UP TO 2 PSIG (14 KPA).
4. CHARGE SYSTEM WITH A NEW FILTER-DRYER CORE IN CHARGING LINE.

3.9 AIR SYSTEM TEST AND BALANCE

A. PERFORM ALL TESTS TO THE ENTIRE SATISFACTION OF THE OWNER. AIR BALANCING CONTRACTOR SHALL NOTIFY OWNER ONE WEEK PRIOR TO SCHEDULING AIR BALANCE AT THE SITE.

B. REGULATING AND ADJUSTING AIR SYSTEMS:
1. THE CONTRACTOR SHALL HAVE AN EXPERIENCED INDEPENDENT TESTING COMPANY CERTIFIED MEMBER OF THE ASSOCIATED AIR BALANCE COUNCIL (A.A.B.C.) SPECIALIZING IN AIR CONDITIONING SYSTEM TESTING COMPLETELY BALANCE THE AIR SYSTEMS SO THAT THE VOLUME OF AIR INDICATED ON THE DRAWINGS IS BEING DELIVERED TO THE OUTLETS. HE SHALL ADJUST AND RE-ADJUST THIS PART OF THE WORK UNTIL THE OPERATION COMPLIES WITH THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS.
2. TESTING PROCEDURE: PROCEDURES SHALL CONFORM TO A.A.B.C. STANDARDS. PROVIDE REPORTS IN SORT COVER, LETTER SIZE, 3-RING BINDER MANUALS, COMPLETE WITH INDEX PAGE AND INDEXING TABS, WITH COVER IDENTIFICATION AT FRONT AND SIDE. INCLUDE SET OF REDUCED DRAWINGS WITH AIR OUTLETS AND EQUIPMENT IDENTIFIED TO CORRESPOND WITH DATA SHEETS, AND INDICATING THERMOSTAT LOCATIONS.
3. THE FOLLOWING TEST DATA SHALL BE TAKEN AND ELECTRONIC FORMAT SUBMITTED IN TABULATED FORM TO THE ARCHITECT FOR EACH SYSTEM:
   a. TEST AND ADJUST ALL SUPPLY, RETURN & EXHAUST BLOWER RPM TO DESIGN REQUIREMENTS.
   b. TEST AND RECORD ALL MOTOR FULL LOAD AMPERES.
   c. TEST AND RECORD SYSTEM STATIC PRESSURES, SUCTION AND DISCHARGE.
   d. TEST AND ADJUST SYSTEM FOR DESIGN RE-CIRCULATED AIR, CFM.
   e. TEST AND ADJUST SYSTEM FOR DESIGN CFM OUTSIDE AIR.
   f. ADJUST ALL SUPPLY, RETURN AND EXHAUST OUTLETS TO WITHIN 5% OF DESIGN CFM.

3.10 ADJUSTING

A. ADJUST THERMOSTATIC EXPANSION VALVE TO OBTAIN PROPER EVAPORATOR SUPERHEAT.

B. ADJUST HIGH- AND LOW-PRESSURE SWITCH SETTINGS TO AVOID SHORT CYCLING IN RESPONSE TO FLUCTUATING SUCTION PRESSURE.

C. ADJUST SET-POINT TEMPERATURE OF AIR-CONDITIONING OR CHILLED-WATER CONTROLLERS TO THE SYSTEM DESIGN TEMPERATURE.

D. PERFORM THE FOLLOWING ADJUSTMENTS BEFORE OPERATING THE REFRIGERATION SYSTEM, ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS:
1. OPEN SHUTOFF VALVES IN CONDENSER WATER CIRCUIT.
2. VERIFY THAT COMPRESSOR OIL LEVEL IS CORRECT.
3. OPEN COMPRESSOR SUCTION AND DISCHARGE VALVES.
4. OPEN REFRIGERANT VALVES EXCEPT BYPASS VALVES THAT ARE USED FOR OTHER PURPOSES.
5. CHECK OPEN COMPRESSOR-MOTOR ALIGNMENT AND VERIFY LUBRICATION FOR MOTORS AND BEARINGS.

E. REPLACE CORE OF REPLACEABLE FILTER DRYER AFTER SYSTEM HAS BEEN ADJUSTED AND AFTER DESIGN FLOW RATES AND PRESSURES ARE ESTABLISHED.

3.11 SOUND AND VIBRATION ISOLATION

A. ALL VIBRATING EQUIPMENT SHALL BE SOUND ISOLATED FROM THE STRUCTURE.

B. THE CONTRACTOR SHALL SUBMIT ALL NECESSARY DATA FOR EACH VIBRATION ISOLATOR, INCLUDING STATIC DEFLECTION AND WEIGHT LOADING, FOR EQUIPMENT IN OPERATION.

C. VIBRATION ISOLATORS SHALL HAVE A VALID OSHPD APPROVAL NUMBER.

3.12 JOB COMPLETION

A. EQUIPMENT IDENTIFICATION:
1. ALL EQUIPMENT FURNISHED UNDER THIS SECTION SHALL BE PROVIDED WITH THE MANUFACTURER'S METAL IDENTIFICATION LABELS SECURELY ATTACHED AND SHOWING ALL PERTINENT DATA, INCLUDING PERFORMANCE CHARACTERISTICS, SIZE, MODEL, AND SERIAL NUMBER. LABELS SHALL NOT BE OBSCURED IN ANY MANNER.
2. IDENTIFICATION NAME PLATES SHALL BE PROVIDED ON ALL EQUIPMENT AND CONTROL COMPONENTS, INCLUDING ROOM THERMOSTAT NUMBERS CODED TO THEIR RESPECTIVE AUTOMATIC ZONE DAMPER, VALVE, OR AIR CONDITIONING UNIT. NAME PLATES SHALL BE CONSTRUCTED OF BLACK BAKELITE WITH WHITE CENTER ENGRAVED LETTERS THREE-SIXTEENTH INCH (3/16") HIGH AND SHALL BE CEMENTED TO EQUIPMENT WITH AN EPOXY RESIN. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, A COMPLETE LIST OF NAME PLATE TITLES FOR APPROVAL PRIOR TO INSTALLATION.
3. EACH VALVE SHALL BE IDENTIFIED BY A NUMBER BRASS TAG WITH HOLE AND BRASS CHAIN MOUNTED ON VALVE STEM OR HANDLE. TAG SHALL BE A MINIMUM OF ONE AND ONE-HALF INCH (1-1/2") IN DIAMETER AND NUMBERS SHALL BE AT LEAST ONE-FOURTH INCH (1/4") HIGH STAMPED INTO THE TAG.

B. FINAL OPERATION: UPON COMPLETION OF THE INSTALLATION OF THE EQUIPMENT AND AFTER ALL SYSTEMS HAVE BEEN TESTED, CLEANED, THE CONTRACTOR SHALL PLACE A COMPETENT PERSON IN CHARGE WHO SHALL OPERATE THE EQUIPMENT FOR A PERIOD OF THREE EIGHT-HOUR DAYS. DURING THIS PERIOD OF OPERATION, ALL SAFETY AND OPERATING CONTROLS SHALL BE ACTUATED TO DEMONSTRATE PROPER OPERATION. DURING THIS OPERATING PERIOD, THE OWNER'S REPRESENTATIVE SHALL BE INSTRUCTED IN ALL DETAILS OF OPERATION AND MAINTENANCE. ALL REQUIRED INSTRUCTIONS FROM THE EQUIPMENT MANUFACTURER'S REPRESENTATIVE SHALL BE GIVEN DURING THE PERIOD.

C. OPERATION INSTRUCTIONS:
2. PREPARE A DIAGRAM OF THE ENTIRE CONTROL SYSTEM WITH A FULL DESCRIPTION OF THE HEATING, VENTILATING AND AIR CONDITIONING SYSTEMS.
3. AFTER APPROVAL BY THE ENGINEER, THE CONTROL DIAGRAM AND COMPLETE OPERATING INSTRUCTIONS SHALL BE MOUNTED UNDER GLASS AND INSTALLED WHERE DIRECTED.
4. PREPARE TWO (2) MAINTENANCE MANUALS WHICH SHALL INCLUDE ALL THE NECESSARY OR PERTINENT DATA, SUCH AS:
   a. NAMES, ADDRESSES AND EMERGENCY PHONE NUMBERS OF ALL SUPPLIERS AND MANUFACTURERS.
   b. PART NUMBERS OF ALL REPLACEABLE ITEMS.
   c. OILING AND LUBRICATION INSTRUCTIONS.
   d. AIR BALANCE REPORT.
   e. CONTROL DIAGRAM AND OPERATION SEQUENCE, TOGETHER WITH LABELING OF CONTROLS AND INSTRUMENTS TO MATCH THE DIAGRAM.
   f. A MAINTENANCE SCHEDULE WHICH SHALL LIST ALL REQUIRED MAINTENANCE ON ALL EQUIPMENT FURNISHED UNDER THIS SECTION OF THE SPECIFICATIONS AND THE INTERVALS OF WHICH THE ITEMS ARE TO BE PERFORMED.
4. AN IDENTIFICATION CHART INDICATING VALVE OPERATING IN THE PIPING SYSTEM SHALL BE INSTALLED AS LOCATED BY THE OWNER. IDENTIFICATION CHARTS SHALL BE MOUNTED BEHIND GLASS IN A FRAME.

D. CLEAN-UP:
1. AFTER ALL HEATING, VENTILATING AND AIR CONDITIONING WORK HAS BEEN TESTED AND APPROVED, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL PARTS OF THE EQUIPMENT INSTALLATION. EXPOSED PARTS WHICH ARE TO BE PAINTED ARE TO BE THOROUGHLY CLEANED OF CEMENT PLASTER AND OTHER MATERIALS AND ALL GREASES AND OIL SPOTS REMOVED WITH SOLVENT. EXPOSED ROUGH METAL WORK TO BE CAREFULLY BRUSHED DOWN WITH STEEL BRUSHES TO REMOVE RUST AND OTHER SPOTS AND LEFT IN PROPER CONDITION TO RECEIVE PAINTER'S FINISH.
2. REMOVE ALL DEBRIS FROM THE JOB SITE, ALL CARTONS, BOXES, PACKING CRATES, EXCESS MATERIALS NOT USED OCCASIONED BY THE WORK AND TO THE SATISFACTION OF THE OWNER.
3. IF THE ABOVE REQUIREMENTS OF CLEAN-UP ARE NOT TO THE SATISFACTION OF THE OWNER, THE OWNER RESERVES THE RIGHT TO ORDER THE WORK DONE AND THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.
4. THE CONTRACTOR SHALL REMOVE ON A DAILY BASIS ALL DEBRIS FROM THE JOB SITE, TO THE SATISFACTION OF THE OWNER.
5. IF THE ABOVE REQUIREMENTS OF CLEAN-UP ARE NOT TO THE SATISFACTION OF THE OWNER, THE OWNER RESERVES THE RIGHT TO ORDER THE WORK DONE BY A THIRD PARTY AND THE COST OF WHICH SHALL BE BORNE BY THE CONTRACTOR.

AGENCY APPROVAL

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2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

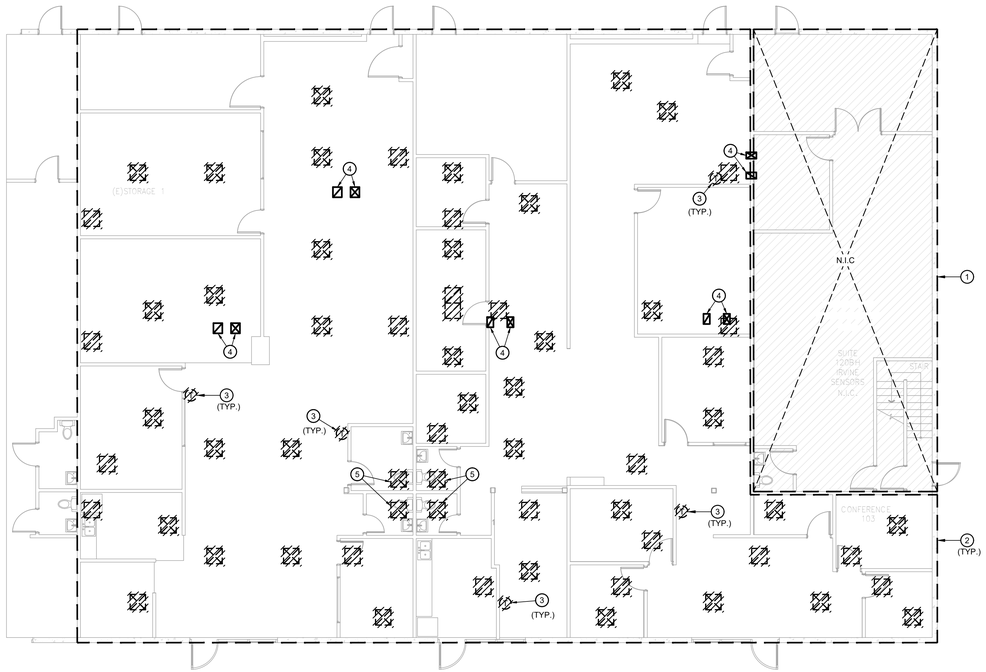
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER
ABBY BANERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

TITLE
MECHANICAL SPECIFICATIONS

SHEET #
M-004



N

MECHANICAL DEMOLITION FLOOR PLAN | 1/8" = 1'-0" | 1

DEMOLITION KEY NOTES:

1. SUITE 120BH AREA NOT IN SCOPE.
2. ALL HVAC APPURTENANCES (DUCT, DIFFUSERS, GRILLES, ETC.) WITHIN CEILING SPACE AND BELOW TO BE REMOVED WITHIN DASHED LINE AREA UNLESS OTHERWISE NOTED.
3. DEMOLISH (E) THERMOSTAT AND WIRING MODULE. EXISTING WIRING TO REMAIN. PLEASE CONTACT PELICAN WIRELESS (BRYCE MERCORD; P: 1-310-975-5894) PRIOR TO STARTING DEMOLITION FOR THERMOSTAT UPGRADE COORDINATION.
4. EXISTING SUPPLY AIR DUCT AND RETURN AIR DUCT DOWN FROM EXISTING ROOF TOP UNIT ON ROOF. REFER TO SHEET MD-200 FOR EXACT DUCT DROP LOCATION.
5. DEMOLISH EXHAUST DUCT. RETAIN EXISTING EXHAUST TERMINATION.

DEMOLITION GENERAL NOTES :

1. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES FROM ALL ELECTRICAL EQUIPMENT AND SERVICE CLEARANCES FOR MECHANICAL EQUIPMENT.
3. CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF DUCT PENETRATIONS THRU' SHEAR WALLS. NO DUCT PENETRATIONS THRU' SHEAR WALLS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL PLANS.

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

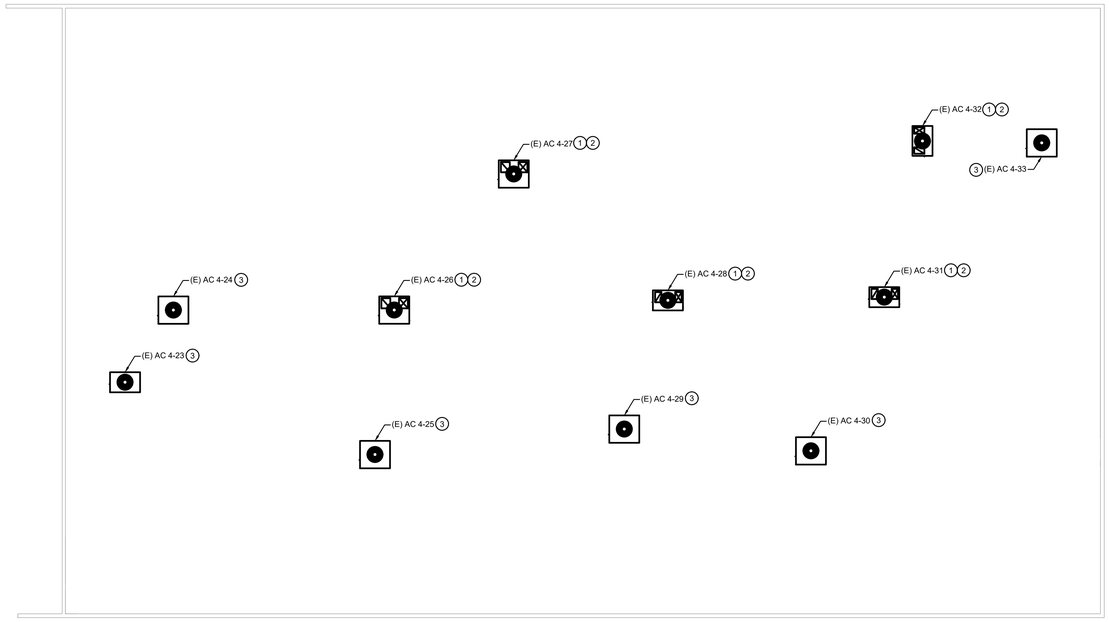
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — BANERJEE — No. M29253 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE
MECHANICAL DEMOLITION FLOOR PLAN

SHEET #
MD-100



N

MECHANICAL DEMOLITION ROOF PLAN | 1/8" = 1'-0" | 1

DEMOLITION KEY NOTES:

1. EXISITING RTU TO REMAIN.
2. DEMOLISH PELICAN WIRELESS THERMOSTAT WIRING MODULE IF APPLICABLE. EXISTING WIRING TO OTHERWISE REMAIN. PLEASE CONTACT PELICAN WIRELESS (BRYCE MERCORD; P: 1-310-975-5894) PRIOR TO STARTING DEMOLITION FOR THERMOSTAT UPGRADE COORDINATION.
3. EXISTING UNIT NOT IN SCOPE.

DEMOLITION GENERAL NOTES :

1. CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY THE SCOPE OF DEMOLITION WORK.
2. DEMOLITION IS INDICATED AS A CONVENIENCE FOR THE CONTRACTOR AND MAY NOT INDICATE THE FULL SCOPE OF DEMOLITION REQUIRED TO COMPLETE THE NEW WORK.
3. PATCH AND REPAIR EXISTING SURFACES AS REQUIRED TO COMPLETE THE NEW WORK.
4. ALL NEW WORK SHALL MATCH EXISTING IN KIND, QUALITY AND FINISH U.O.N
5. CONTRACTOR SHALL INCLUDE IN THE SCOPE OF WORK ALL WORK REQUIRED TO PATCH, FINISH, MATCH, AND BLEND NEW SURFACES TO EXISTING AS IMPACTED BY THE AREAS OF NEW WORK.
6. CONTRACTOR SHALL PATCH AND REPAIR ANY UNUSED ROOF OPENINGS.

AGENCY APPROVAL

5

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4

3

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Telephone (714) 693-2277

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

2

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

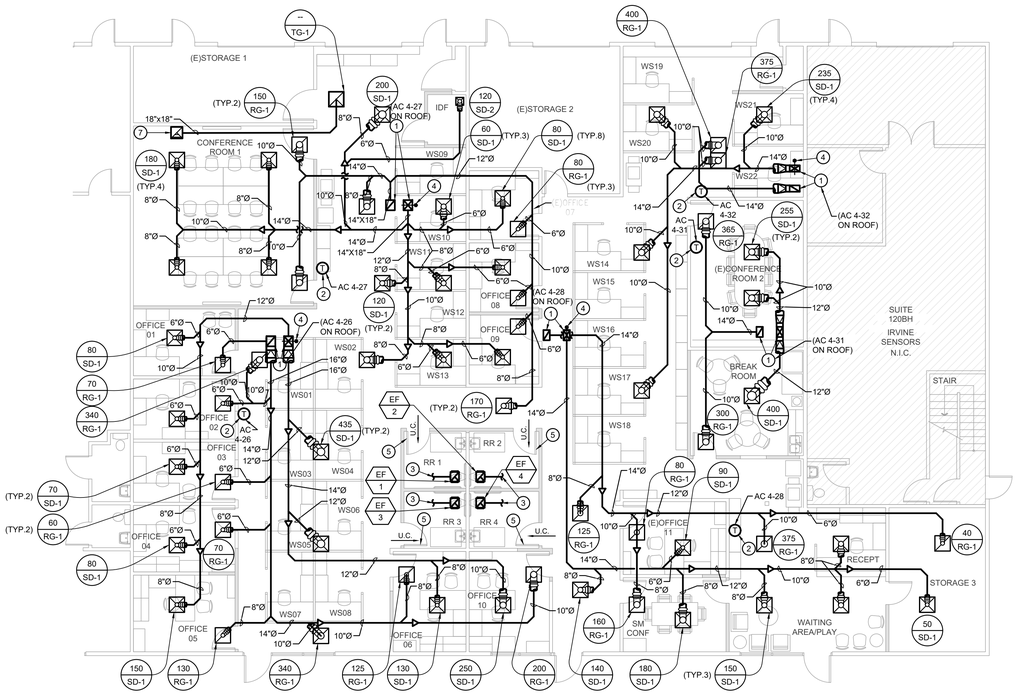
REGISTERED PROFESSIONAL ENGINEER — BIBIT BANERJEE — No. M29253 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

1

TITLE
MECHANICAL DEMOLITION ROOF PLAN

SHEET #
MD-200

E D C B A



N

MECHANICAL REMODEL FLOOR PLAN | 1/8" = 1'-0" | 1

CONSTRUCTION KEY NOTES:

1. EXISTING SUPPLY AIR DUCT AND RETURN AIR DUCT DOWN FROM EXISTING ROOF TOP UNIT ON ROOF. REFER TO SHEET M-200 FOR EXACT DUCT DROP LOCATION. CONTRACTOR TO FIELD VERIFY THE EXACT LOCATION OF SUPPLY AND RETURN AIR DUCT DROP.
2. PROVIDE PELICAN WIRELESS THERMOSTAT. TC2 DIGITAL THERMOSTAT. MOUNT AT 48" AFF. REUSE EXISTING THERMOSTAT WIRING. PROVIDE NEW WIRING MODULE AND UNIT. PLEASE COORDINATE INSTALL WITH PELICAN WIRELESS (BRYCE MERCORD; P: 1-310-975-5894).
3. ROUTE EXHAUST DUCT TO EXISTING EXHAUST TERMINATION POINT. FOR PURPOSES OF BID CONTRACTOR SHALL ASSUME 40 FT. OF EXHAUST DUCT PER EXHAUST FAN.
4. PROVIDE DUCT SMOKE DETECTOR IN SUPPLY DUCT PER CMC SECTION 609.0. SMOKE DETECTOR TO SHUT OFF UNIT UPON DETECTION OF SMOKE AND SEND SIGNAL TO BUILDING FIRE ALARM PANEL(IF APPLICABLE).
5. PROVIDE 1" DOOR UNDERCUT.
6. PROVIDE COUNTER BALANCE BACK DRAFT DAMPER ALLOWING PRESSURE RELIEF AT LESS THAN .01 INCHES W.G. PROVIDE RUSKIN CBD2 OR APPROVED EQUAL
7. 18"X18" RELIEF DUCT UP THRU' ROOF TO GRAVITY HOOD TERMINATION.

CONSTRUCTION GENERAL NOTES :

1. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES FROM ALL ELECTRICAL EQUIPMENT AND SERVICE CLEARANCES FOR MECHANICAL EQUIPMENT.
3. CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF DUCT PENETRATIONS THRU' SHEAR WALLS. NO DUCT PENETRATIONS THRU' SHEAR WALLS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL PLANS.
4. ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.
5. ALL RECTANGULAR DUCT TURNS IN MAIN TRUNK AIR DUCTS SHALL HAVE SINGLE WALL TURNING VANES WITH TRAILING EDGE, UNLESS OTHERWISE INDICATED OR NOTED.
6. MECHANICAL CONTRACTOR SHALL COORDINATE ALL DOOR LOUVER AND UNDERCUT LOCATIONS WITH THE APPROPRIATE TRADES PRIOR TO BID.

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

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DATE **09/04/2026**

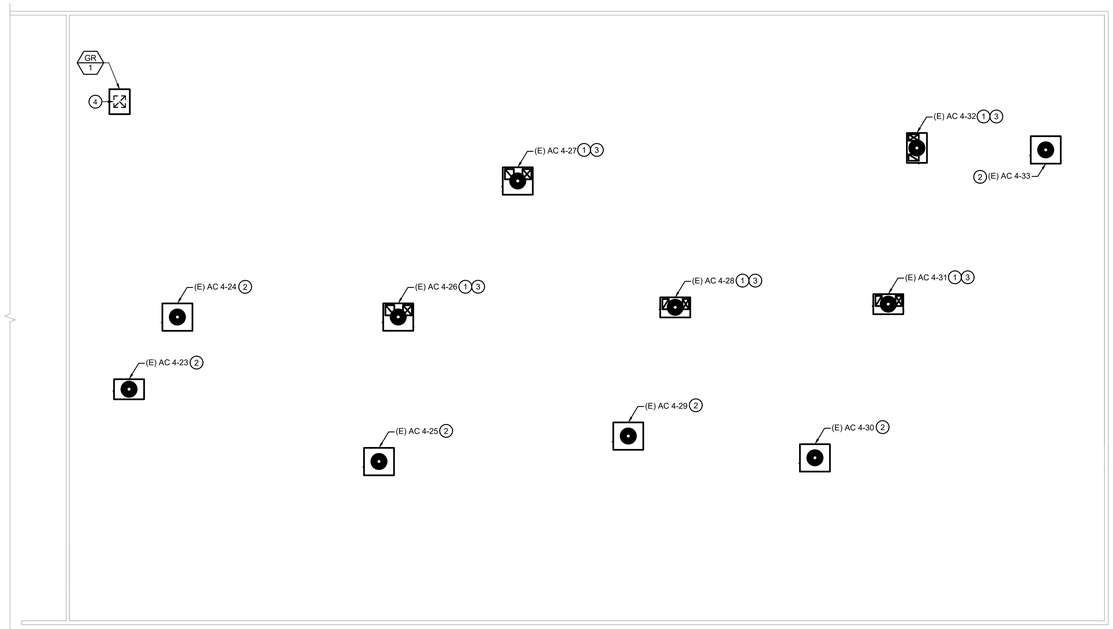
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — JEFF BANEKEZIS — No. M29253 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE
MECHANICAL REMODEL FLOOR PLAN

SHEET #
M-100



N

MECHANICAL REMODEL ROOF PLAN | 1/8" = 1'-0" | 1

CONSTRUCTION KEY NOTES:

1. EXISITING RTU TO REMAIN.
2. EXISTING UNIT NOT IN SCOPE.
3. INSTALL PELICAN WIRELESS THERMOSTAT WIRING MODULE IF APPLICABLE. EXISTING WIRING TO OTHERWISE REMAIN. PLEASE CONTACT PELICAN WIRELESS(BRYCE MERCORD; P: 1-310-975-5894) PRIOR TO STARTING DEMOLITION FOR THERMOSTAT UPGRADE COORDINATION.
4. 18"X18" RELIEF DUCT DOWN THRU' ROOF.

CONSTRUCTION GENERAL NOTES :

1. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
2. MAINTAIN PROPER CLEARANCES FROM ALL ELECTRICAL EQUIPMENT AND SERVICE CLEARANCES FOR MECHANICAL EQUIPMENT.
3. FRESH AIR INTAKES SHALL BE 10'-0" MIN. AWAY FROM ALL EXHAUST OUTLETS, PLUMBING VENTS, AND FLUES.
4. ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.
5. CONTRACTOR SHALL COORDINATE EXACT EQUIPMENT PAD SIZES AND LOCATIONS WITH OTHER TRADES PRIOR TO INSTALLATION.

AGENCY APPROVAL

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PROJECT

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COSTA MESA, CA 92626

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DATE **09/04/2026**

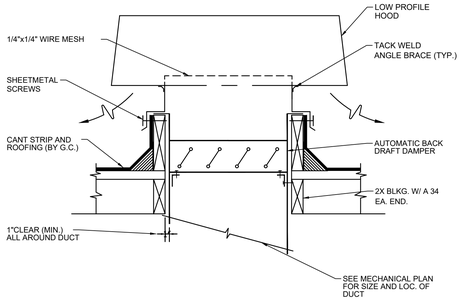
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER
ROBERT BANERJEE
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

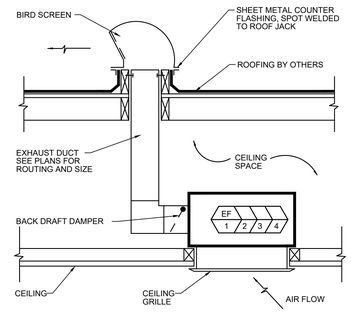
TITLE
MECHANICAL REMODEL
ROOF PLAN

SHEET #
M-200



GRAVITY RELIEF HOOD DETAIL

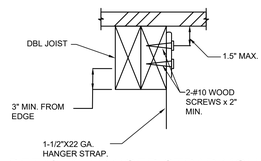
SCALE NONE 5



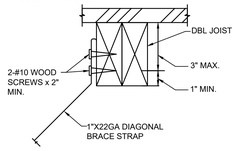
EXHAUST FAN DETAIL

SCALE NONE 3

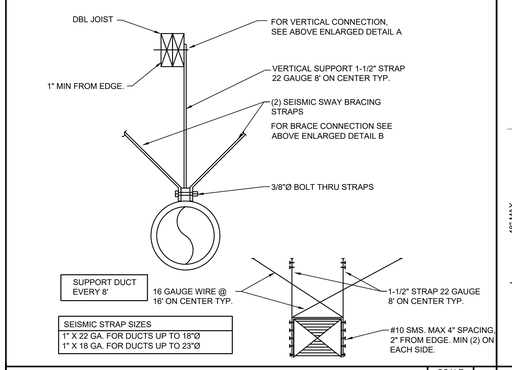
NOTE:



DETAIL A- HANGER STRAP MOUNTING



DETAIL B -BRACE STRAP MOUNTING

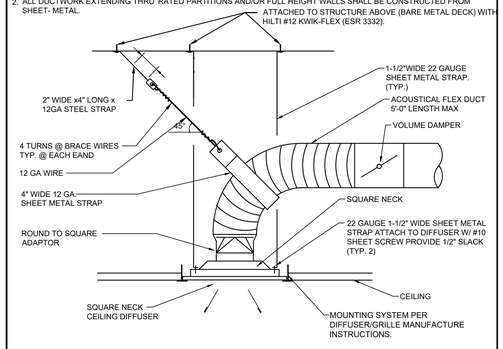


SEISMIC STRAP SIZES
1" X 22 GA. FOR DUCTS UP TO 18"Ø
1" X 18 GA. FOR DUCTS UP TO 23"Ø

EXPOSED DUCT SUPPORT DETAIL

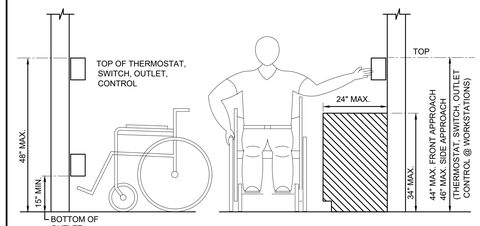
SCALE NONE 4

NOTE:
1. PROVIDE SHEET METAL PLENUM BOX WITH SIDE TAP-IN IN LIEU OF FLEX DUCT IF NECESSARY.
2. ALL DUCTWORK EXTENDING THRU' RATED PARTITIONS AND/OR FULL HEIGHT WALLS SHALL BE CONSTRUCTED FROM SHEET- METAL.



CEILING DIFFUSER MOUNTING

SCALE NONE 2



CONTROL DEVICE MOUNTING DETAIL

SCALE NONE 1

AGENCY APPROVAL

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2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119, COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER JOEL BANZUELA No. M29253 exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

TITLE
MECHANICAL DETAILS

SHEET #
M-300

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 1 of 15)**

Project Name:	**OCDE Esplanade 117**	**Date Prepared:**	**2026-09-15**

A. General Information

1	Project Name	OCDE Esplanade 117			
2	Run Title	Title 24 Analysis			
3	Project Location	3001 RED HILL AVE, SUITE 117			
4	City	COSTA MESA	5	Standards Version	Compliance 2025
6	Zip code	92626	7	Compliance Software (version)	EnergyPro 10.1
8	Climate Zone	6	9	Building Orientation (deg)	0
10	Building Type(s)	• Nonresidential	11	Weather File	CA_Title24_2025_COSTA-MESA-WAYNE.epw
12	Project Scope	• Existing addition and alteration	13	Number of Dwelling Units	0
14	Total Conditioned Floor Area in Scope (ft^2)	6287.24	15	Total # of hotel/motel rooms	0
16	Total Unconditioned Floor Area (ft^2)	826.01	17	Fuel Type	Natural gas
18	Is Natural Gas Available per Section 100.1?	Yes	19	Nonresidential Conditioned Floor Area	6287.24
20	Total # of Stories (Habitable Above Grade)	1	21	Residential Conditioned Floor Area	0

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 2 of 15)**

B. PROJECT SUMMARY

Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within the permit application.

Building Components Complying via Performance					**Building Components Complying Prescriptively**	
Envelope (See Table G)	Nonres	Performance	Solar Thermal Water Heating (See Table I3)	☐ Performance	The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).	
	MultiFam	Not Included		☒ Not Included		
Mechanical (See Table H)	Nonres	Performance	Covered Process: Commercial Kitchens (see Table J)	☐ Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required
	MultiFam	Not Included		☒ Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E is required
Domestic Hot Water (See Table I)	Nonres	Not Included	Covered Process: Laboratory Exhaust (see Table J)	☐ Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required
	MultiFam	Not Included		☒ Not Included	**Building Components Complying with Mandatory Measures**	
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)	☐ Performance	Electrical power systems, commissioning, solar ready, elevator and escalator requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)	
	MultiFam	Not Included		☒ Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required
			Battery (see Table F)	☐ Performance	Commissioning 120.8	NRCC-CXR-E is required
				☒ Not Included	Solar and Battery 110.10	NRCC-SAB-E is required

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 3 of 15)**

C1. COMPLIANCE SUMMARY

COMPLIES[*]

	Long-term System Cost (LSC)[1]		Source Energy Use
	Efficiency[2] ($/ft²-yr)	**Total[3] ($/ft²-yr)**	**Total[3] (kBtu/ft²-yr)**
Standard Design	34.78	n/a	n/a
Proposed Design	27.31	n/a	n/a
Compliance Margins	**7.47**	**n/a**	**n/a**
	Pass	**n/a**	**n/a**

[1] *Long-term System Cost (LSC) is a 30-year present value cost to California's energy system. LSC is not a predicted utility bill.*
[2] *Efficiency measures include energy efficiency improvements such as better building envelope and more efficient mechanical equipment*
[3] *Compliance Totals include efficiency, photovoltaics and batteries*
[*] *New Construction: Building complies when Proposed Design is equal to or less than Standard Design in all compliance categories and unmet load hour limits are not exceeded. Complete Addition Scope and Existing, Addition and Alteration Scope: Building complies when efficiency compliance margin is greater than or equal to zero and unmet load hour limits are not exceeded.*

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 4 of 15)**

C2. LSC ENERGY COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual LSC Energy Use, $/ft²-yr)

COMPLIES

Energy Component	**Standard Design (LSC)**	**Proposed Design (LSC)**	**Compliance Margin (LSC)[1]**
Space Heating	0.62	1.92	-1.3
Space Cooling	7.62	7.22	0.4
Indoor Fans	16.73	8.36	8.37
Heat Rejection	0	0	0
Pumps & Misc.	0	0	0
Domestic Hot Water	2.4	2.4	0
Indoor Lighting	7.41	7.41	0
Flexibility	---	---	---
EFFICIENCY COMPLIANCE TOTAL	**34.78**	**27.31**	**7.47 (21.5%)**
Photovoltaics	---	---	---
Batteries	---	---	---
TOTAL COMPLIANCE	**34.78**	**27.31**	**7.47 (21.5%)**

[1] *Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.*

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 5 of 15)**

C3. LSC ENERGY RESULTS FOR NON-REGULATED COMPONENTS[1]

Non-Regulated Energy Component	**Standard Design (LSC)**	**Proposed Design (LSC)**	**Compliance Margin (LSC)[2]**
Receptacle	18.22	18.22	---
Process	---	---	---
Other Ltg	0.57	0.57	---
Process Motors	---	---	---
TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)	**53.57**	**46.1**	**7.47 (13.9%)**

[1] *Notes: This table is not used for Energy Code Compliance.*
[2] *Notes: This number in parenthesis following the Compliance Margin in column 4, represents the Percent Better than Standard.*

C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 6 of 15)**

C7. ENERGY USE SUMMARY

Energy Component	**Standard Design Site (MWh)**	**Proposed Design Site (MWh)**	**Margin (MWh)**	**Standard Design Site (MBtu)**	**Proposed Design Site (MBtu)**	**Margin (MBtu)**
Space Heating	0.5	1.1	-0.6	---	7.9	---
Space Cooling	11	10.3	0.7	---	---	---
Indoor Fans	20.1	10.1	10	---	---	---
Heat Rejection	---	---	---	---	---	---
Pumps & Misc.	---	---	---	---	---	---
Domestic Hot Water	3.1	3.1	0	---	---	---
Indoor Lighting	9.7	9.7	0	---	---	---
Flexibility	---	---	---	---	---	---
EFFICIENCY TOTAL	**44.4**	**34.3**	**10.1**	**0**	**7.9**	**-7.9**
Photovoltaics	---	---	---	---	---	---
Batteries	---	---	---	---	---	---
ENERGY USE SUBTOTAL	**44.4**	**34.3**	**10.1**	**0**	**7.9**	**-7.9**
Receptacle	24.3	24.3	0	---	---	---
Process	---	---	---	---	---	---
Other Ltg	0.7	0.7	0	---	---	---
Process Motors	---	---	---	---	---	---
ENERGY USE TOTAL	**69.4**	**59.3**	**10.1**	**0**	**7.9**	**-7.9**

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 7 of 15)**

C8. ENERGY USE INTENSITY (EUI)

	Standard Design (kBtu/ft² / yr)	**Proposed Design (kBtu/ft² / yr)**	**Margin (kBtu/ft² / yr)**	**Margin Percentage**
GROSS EUI[1]	33.29	29.55	3.74	11.23
NET EUI[1]	33.29	29.55	3.74	11.23

[1] *Notes: Gross EUI is Energy Use Total (not including PV)/Total Building Area. Net EUI is Energy Use Total (including PV)/Total Building Area.*

D1. EXCEPTIONAL CONDITIONS

• The building does not include service water heating. Verify that service water heating is not required and is not included in the design.
• Project claiming exception to Section 120.7(e) Vestibules requirements.

G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only)

01	**02**	**03**	**04**
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft^2)**	**Total Fenestration Area (ft^2)**	**Window to Wall Ratio (%)**
North-Facing[1]	0	0	0
East-Facing[2]	2385.56	275.47	11.55
South-Facing[3]	0	0	0
West-Facing[4]	389.53	0	0
Total	**2775.09**	**275.47**	**9.93**
Roof	6286.76	0	0

Notes
[1]*North-Facing is oriented to within 45 degrees of true north, including 4500'00" east of north (NE), but excluding 4500'00" west of north (NW),*
[2]*East-Facing is oriented to within 45 degrees of true east, including 4500'00" south of east (SE), but excluding 4500'00" north of east (NE),*
[3]*South-Facing is oriented to within 45 degrees of true south, including 4500'00" west of south (SW), but excluding 4500'00" east of south (SE),*
[4]*West-Facing is oriented to within 45 degrees of true west, including 4500'00" north of west (NW), but excluding 4500'00" south of west (SW),*

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 8 of 15)**

G4. NONRESIDENTIAL AIR BARRIER

01	**02**
Building Story Name	**Air Barrier**
Com-Floor 1	No air barrier

G5. OPAQUE SURFACE ASSEMBLY SUMMARY

01	**02**	**03**	**04**	**05**	**06**		**07**	**08**	**09**	**10**
					Continuous R-Value					
Surface Name	**Construction Type**	**Area (ft^2)**	**Framing Type**	**Cavity R-Value**	**Interior**	**Exterior**	**Units**	**Value**	**Description of Assembly Layers**	**Status[1]**
Slab On Grade6	Underground Floor	7,112.77	N/A	0	N/A	N/A	F-factor	0.73	Slab Type =Unheated slab on grade Insulation Orientation =None Insulation R-Value =none	E
R-38 Roof Attic8	Roof	7,112.77	Wood	38	N/A	N/A	U-factor	0.0329	AsphaltShingles0_25In Vapor permeable felt - 1/8 in. Plywood - 1/2 in. Air - Cavity - Wall Roof Ceiling - 4 in. or more Composite-1 Gypsum Board - 1/2 in.	E
R-21 Wall10	Interior Wall	2,192	Wood	21	N/A	N/A	U-factor	0.0659	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-2 Gypsum Board - 1/2 in.	E
R-21 Wall101	Exterior Wall	4,273.23	Wood	21	N/A	N/A	U-factor	0.0691	Stucco - 7/8 in. Vapor permeable felt - 1/8 in. Composite-2 Gypsum Board - 1/2 in.	E

[1] *Status: N - New, A - Altered, E - Existing*

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD — NRCC-PRF-E

Nonresidential Performance Compliance Method — **(Page 9 of 15)**

G6A. OPAQUE DOOR SUMMARY (NONRESIDENTIAL)

01	**02**	**03**	**04**
Assembly Name	**Area (ft^2)**	**Overall U-factor**	**Status[1]**
Metal Door18	562.77	0.7	E

[1] *Status: N - New, A - Altered, E - Existing*

G7A. FENESTRATION ASSEMBLY SUMMARY (NONRESIDENTIAL)

01	**02**	**03**	**04**	**05**	**06**	**07**	**08**	**09**
Fenestration Assembly Name	**Fenestration Type/ Product Type / Frame Type**	**Certification Method[1]**	**Assembly Method**	**Area (ft^2)**	**Overall U-factor**	**Overall SHGC**	**Overall VT**	**Status[2]**
Single Metal Tinted	Vertical fenestration Fixed window Metal	Default 110.6	Site built	192.43	1.19	0.68	0.77	E
GLAZED DOOR	Vertical fenestration Fixed window Metal	Default 110.6	Site built	83.04	1.19	0.68	0.77	E

[1] *Notes: Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass-only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A - Altered, E - Existing*

CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance — Report Version: 2025.0.000 Schema Version: rev 20250101 — Report Generated: 2026-09-15 10:28:08 Compliance ID: EnergyPro-4917-0926-0122

AGENCY APPROVAL

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2755 Bristol Street, Suite 250, Newport Beach, California 92626 | P: 949.315.1993

These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user 's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — JOHN W. BARNES — No. M28053 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE
MECHANICAL TITLE 24 REPORTS

SHEET #
M-500

H1. DRY SYSTEM EQUIPMENT (FURNACES, AIR HANDLING UNITS, HEAT PUMPS, VRF, ECONOMIZERS ETC.)

01	02	03	04	05	06	07	08	09	10	11	12
			Heating				Cooling				
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Output (kBtu/h)	Efficiency Unit	Efficiency	Total Cooling Output (kBtu/h)	Efficiency Unit	Efficiency	Economizer Type (if present)	Status[1]
AC 4-27	Single Zone Heat Pump (SZHP) Air System	1	48.92	0	HSPF	8.2	45.94	EER SEER	12.5 15	No Economizer	N
AC 4-26	Single Zone Air Conditioner (SZAC) Air System	1	73	0	AFUE	81	45.88	EER SEER	12.3 16	No Economizer	N
AC 4-28	Single Zone Air Conditioner (SZAC) Air System	1	37	0	AFUE	81	27.46	EER SEER	12 15	No Economizer	N
AC 4-32	Single Zone Heat Pump (SZHP) Air System	1	30.8	0	HSPF	8.2	27.57	EER SEER	12 15	No Economizer	N
AC 4-31	Single Zone Air Conditioner (SZAC) Air System	1	37	0	AFUE	81	27.46	EER SEER	12 15	No Economizer	N

[1] *Status: N - New, A - Altered, E - Existing*

H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12	13
Name or Item Tag	Qty	Design OA CFM	Supply Fan				Return / Relief Fan					Status[1]
			CFM	Power	Power Units	Control	Fan Type	CFM	Power	Power Units	Control	
AC 4-27	1	815.32	1,700	0.63	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC 4-26	1	303.83	1,700	0.63	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC 4-28	1	157.85	910	0.25	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC 4-32	1	160.97	940	0.33	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N
AC 4-31	1	242.09	910	0.25	BHP	Constant Vol	N/A	N/A	N/A	N/A	N/A	N

01	14	15	16	17	18	19
Name or Item Tag	Supply Fan			Return / Relief Fan		
	Modeling Method	Fan Efficiency	Motor Efficiency	Modeling Method	Fan Efficiency	Motor Efficiency
AC 4-27	Brake Horse Power	0.65	0.86	N/A	N/A	N/A
AC 4-26	Brake Horse Power	0.65	0.86	N/A	N/A	N/A
AC 4-28	Brake Horse Power	0.65	0.86	N/A	N/A	N/A
AC 4-32	Brake Horse Power	0.65	0.86	N/A	N/A	N/A
AC 4-31	Brake Horse Power	0.65	0.86	N/A	N/A	N/A

[1] *Status: N - New, A - Altered, E - Existing*

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03		04	05	06	07
Zone Name	Mechanical Ventilation					Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People		Supply OA CFM	Exhaust CFM		
1-AC 4-27	General - Conference/meeting	54.35		815.32	0	1647.12	N/A
3-AC 4-26	Office - Office space	10.13		303.83	0	2025.56	N/A
4-AC 4-28	Office - Office space	5.26		157.85	0	1052.35	N/A
6-AC 4-32	Office - Office space	5.37		160.97	0	1073.13	N/A

H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION

01	02	03	04	05	06	07
Zone Name	Mechanical Ventilation				Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
	Ventilation Function	# of People	Supply OA CFM	Exhaust CFM		
7-AC 4-31	General - Conference/meeting	16.14	242.09	0	489.08	N/A

H11. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY

01	02	03	04	05	06	07	08	09	10	11	12
System ID	System Type	Qty	Rated Capacity (kBtuh)		Airflow (cfm)			Fan			VSD
			Heating	Cooling	Design	Min.	Min. Ratio	Power	Power Units	Cycles	
1-AC 4-27-Trm	Uncontrolled	1	N/A	N/A	1,700	N/A	0	N/A	N/A	N/A	☐
3-AC 4-26-Trm	Uncontrolled	1	N/A	N/A	1,700	N/A	0	N/A	N/A	N/A	☐
4-AC 4-28-Trm	Uncontrolled	1	N/A	N/A	910	N/A	0	N/A	N/A	N/A	☐
6-AC 4-32-Trm	Uncontrolled	1	N/A	N/A	940	N/A	0	N/A	N/A	N/A	☐
7-AC 4-31-Trm	Uncontrolled	1	N/A	N/A	910	N/A	0	N/A	N/A	N/A	☐

K1. INDOOR CONDITIONED LIGHTING GENERAL INFO

01	02	03	04	05	06
				Additional (Custom) Allowance	
Occupancy Type[1]	Conditioned Floor Area[2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Area Category Footnotes (Watts)	Area Category Footnotes (Watts)
Convention, Conference, Multipurpose and Meeting Center	2136.2	1602.15	0	0	0
Office (250 square feet)	4151.04	2698.18	0	0	0
Building Totals:	**6287.24**	**4300.33**	**0**	**0**	**0**

[1] *See Table 140.6-C*
[2] *See NRCC-LTI--E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in this table*

K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL

See NRCC-LTI-E for mandatory controls

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

Building Component	Form/Title
Mechanical	NRCI-MCH-E - For all buildings with Mechanical Systems

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction. Lighting controls and mechanical NRCAs must be completed through an Acceptance Test Technician Certification Provider (ATTCP).

Building Component [1]	Form/Title & System Name(s)
Mechanical	NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap
	AC 4-27, AC 4-26, AC 4-28, AC 4-32 and AC 4-31.
Mechanical	NRCA-MCH-03-A - Constant Volume Single Zone HVAC
	AC 4-27, AC 4-26, AC 4-28, AC 4-32 and AC 4-31.

[1] *Refer to other prescriptive NRCC forms applicable to the project for additional NRCA tests required that are not included in the NRCC-PRF-E form*

P. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained and provided to the building inspector during construction and can be found online

There are no certificates applicable to this project

Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Cole Condon	Documentation Author Signature: CC
Company: Optimum Energy Design	Signature Date: 2026-09-15
Address: 5200 E La Palma Avenue	CEA/AEA/ECC Certification Identification (if applicable):
City/State/Zip: Anaheim, CA 92807	Phone: 714-693-2277

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I understand that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building and shall be made available to the enforcement agency for all applicable inspections. I will take the necessary steps to fulfill this requirement.
6. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy. I will take the necessary steps to fulfill this requirement.

Responsible Designer Name: Abby Banerjee	Responsible Designer Signature:	
Company: Optimum Energy Design		
Address: 5200 E La Palma Avenue	Date Signed: 2026-09-15	
City/State/Zip: Anaheim, CA 92807	License #:	
Phone: 714-693-2277	Title:	Scope:

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user`s reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER ABBY BANERJEE No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

TITLE
MECHANICAL TITLE 24 REPORTS

SHEET #
M-501

MEP COMPONENT ANCHORAGE NOTE

All mechanical, plumbing, and electrical components shall be anchored and installed per the details on the DSA-approved construction documents. The following components shall be anchored or braced to meet the force and displacement requirements prescribed in the 2025 CBC Sections 1617A.1.18 through 1617A.1.26 and ASCE 7-22 Chapters 13, 26, and 30:

1. All permanent equipment and components.
2. Temporary, movable or mobile equipment that is permanently attached (e.g. hard wired) to the building utility services such as electricity, gas or water. "Permanently attached" shall include all electrical connections except plugs for 110/220 volt receptacles having a flexible cable.
3. Temporary, movable or mobile equipment which is heavier than 400 pounds or has a center of mass located 4 feet or more above the adjacent floor or roof level that directly support the component is required to be restrained in a manner approved by DSA.

The following mechanical and electrical components shall be positively attached to the structure but need not demonstrate design compliance with the references noted above. These components shall have flexible connections provided between the component and associated ductwork, piping, and conduit. Flexible connections must allow movement in both transverse and longitudinal directions:

A. Components weighing less than 400 pounds and having a center of mass located 4 feet or less above the adjacent floor or roof level that directly support the component.

B. Components weighing less than 20 pounds, or in the case of distributed systems, less than 5 pounds per foot, which are suspended from a roof or floor or hung from a wall.

The anchorage of all mechanical, electrical and plumbing components shall be subject to the approval of the design professional in general responsible charge or structural engineer delegated responsibility and acceptance by DSA. The project inspector will verify that all components and equipment have been anchored in accordance with the above requirements.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

APPLICABLE CODE: 2025 CBC

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2025 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW. THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP☐ MD☐ PP☒ E☐ OPTION 1: PROJECT-SPECIFIC DESIGN.

MP☐ MD☐ PP☐ E☐ OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.

MP☐ MD☐ PP☐ E☐ OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

DESIGN PROFESSIONAL USER NOTE (DO NOT COPY THIS 'USER NOTE' TO THE PLANS):
MEP DESIGN PROFESSIONALS: IDENTIFY WHICH OPTIONS APPLY FOR YOUR PROJECT. IF OPTION 1 IS CHOSEN, PROVIDE PROJECT-SPECIFIC DETAILS COORDINATED WITH A STRUCTURAL ENGINEER AND PRESENTED ON THE DRAWINGS IN ACCORDANCE WITH IR 16-13 SECTION 2.1. FOR OPTION 2, VERIFY THAN AN OPM PACKAGE HAS BEEN PREPARED IN ACCORDANCE WITH IR 16-13 SECTION 2.2 AND IS INCLUDED WITHIN THE ORIGINAL PROJECT SUBMITTAL. FOR OPTION 3, VERIFY THAT ALL OF THE REQUIREMENTS FOR THE DEFERRED SUBMITTAL HAVE BEEN SATISFIED PRIOR TO THE PLAN SUBMITTAL IN ACCORDANCE WITH IR 16-13 SECTION 2.2.6.
FOR ALL OPTIONS, VERIFY THAT THE SEOR HAS VERIFIED THE ADEQUACY OF THE STRUCTURE TO SUPPORT ALL HANGER AND BRACE LOADS.

APPLICABLE CODES

BUILDING OCCUPANCY CLASSIFICATION: -

THE CONSTRUCTION OF THIS PROJECT SHALL CONFORM TO THE REQUIREMENTS OF:

CODES

2025 CALIFORNIA ADMINISTRATIVE CODE (CAC), PART 1, TITLE 24 CCR
2025 CALIFORNIA BUILDING CODE (CBC), PART 2, TITLE 24 CCR
2025 CALIFORNIA ELECTRICAL CODE (CEC), PART 3, TITLE 24 CCR
2025 CALIFORNIA MECHANICAL CODE (CMC), PART 4, TITLE 24 CCR
2025 CALIFORNIA PLUMBING CODE (CPC), PART 5, TITLE 24 CCR
2025 CALIFORNIA ENERGY CODE (CEC), PART 6, TITLE 24 CCR
2025 CALIFORNIA FIRE CODE (CFC), PART 9, TITLE 24 CCR
2025 CALIFORNIA EXISTING BUILDING CODE (CEBC), PART 10, TITLE 24 CCR
2025 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN), PART 11, TITLE 24 CCR
2025 CALIFORNIA REFERENCED STANDARDS CODE, PART 12, TITLE 24 CCR
TITLE 19 CCR, PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS

GENERAL NOTES

1. CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING LINES, LATERALS AND WYES BEFORE STARTING. SHOULD IT BE NECESSARY TO REROUTE LINES DUE TO CONDITIONS FOUND ON THE SITE OR IF INDICATED P.O.C. CANNOT BE MADE TO THE LINES AS FOUND, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT BEFORE INSTALLING ANY WORK WHICH MAY BE AFFECTED.
2. OFFSET PIPES AS REQUIRED TO CLEAR MECHANICAL DUCTWORK.
3. FURNISH AND INSTALL A SHUT-OFF VALVE, PLUG COCK OR STOP AT EACH PIECE OF EQUIPMENT FURNISHED BY OTHERS REQUIRING DRAIN, WASTE, WATER, ETC.
4. SEAL AND FLASH ALL PENETRATIONS THROUGH ROOF WATERTIGHT.
5. THE DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC TO THE EXTENT THAT ALL OFFSETS, BENDS, SPECIAL FITTINGS AND LOCATIONS ARE NOT EXACTLY LOCATED. THE CONTRACTOR SHALL LOCATE ALL OFFSETS, BENDS, AND SPECIAL FITTINGS TO SUIT JOB SITE CONDITIONS. THEREFORE THE CONTRACTOR SHALL MAKE HIMSELF FULLY AWARE OF ALL EXISTING CONDITIONS AND LOCATE ALL REQUIRED SPECIAL FITTINGS TO SUIT EXISTING CONDITIONS.
6. THIS CONTRACTOR SHALL COMPLY WITH ALL CONTRACT DOCUMENTS IN LAYING OUT HIS WORK AND EQUIPMENT. HE SHALL COORDINATE THE WORK OF THIS SECTION WITH THE WORK OF OTHER TRADES AND ALL JOB CONDITIONS.
7. THE CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, CHARGES, AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENT AGENCIES.
8. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL TRADES AT THE SITE. ANY COSTS TO INSTALL WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE PLANS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATION. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
9. AFTER ALL REQUIREMENTS OF THE SPECIFICATIONS AND/OR THE DRAWINGS HAVE BEEN FULLY COMPLETED, REPRESENTATIVES OF THE OWNER WILL INSPECT THE WORK. THE CONTRACTOR SHALL PROVIDE COMPETENT PERSONNEL TO DEMONSTRATE THE OPERATION OF ANY ITEM OR SYSTEM, TO THE FULL SATISFACTION OF EACH REPRESENTATIVE. FINAL ACCEPTANCE OF THE WORK WILL BE MADE BY THE OWNER AFTER RECEIPT OF APPROVAL AND RECOMMENDATION OF ACCEPTANCE FROM EACH REPRESENTATIVE.
10. WHEREVER A DISCREPANCY IN QUANTITY OR SIZE OF MECHANICAL EQUIPMENT MATERIAL ARISES ON THE DRAWINGS AND/OR SPECIFICATIONS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL AND SERVICES REQUIRED BY THE STRICTEST CONDITIONS NOTED ON DRAWINGS AND/OR IN THE SPECIFICATION TO ENSURE COMPLETE AND OPERABLE SYSTEMS.
11. ALL PIPING INSULATION AND SEALING MATERIALS SHALL HAVE FLAME SPREAD RATING NOT EXCEEDING 25 AND SMOKE DEVELOPED RATING NOT EXCEEDING 50.
12. BEFORE ORDERING ANY PIECE OF EQUIPMENT, THE CONTRACTOR SHALL PROVIDE EQUIPMENT SUBMITTALS, SHOP DRAWINGS WITH EQUIPMENT DIMENSIONS, AND SITE CLEARANCE AVAILABLE. WHERE REQUIRED BY SPACE LIMITATIONS HAVE UNITS SHIPPED IN SECTIONS.
13. SANITARY VENTS TO BE 10'-0" FROM ANY AND ALL FRESH AIR INTAKES, FAN DISCHARGE OR HEATING EQUIPMENT.
14. ALL PIPE BRANCH CONNECTIONS SHALL OFF-SET. NO "BULL HEAD" CONNECTIONS WILL BE ALLOWED.
15. ALL EXISTING PLUMBING LINES SHOWN ARE TAKEN FROM EXISTING DRAWINGS WHICH INDICATE APPROXIMATE LOCATION ONLY. THE CONTRACTOR IS TO INCLUDE IN HIS BID TO PERFORM FIELD INVESTIGATION TO PIN POINT THE EXACT LOCATION AS REQUIRED FOR DEMOLITION OR MAKING NEW CONNECTION.
16. INTERRUPTION OF EXISTING SERVICES: THE CONTRACTOR'S ATTENTION IS CALLED TO THE PRESENCE OF EXISTING, CONDUIT, PIPING, ETC. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR THE PROPER AND APPROVED REPAIR OF ANY AND ALL DAMAGE BY HIM OR HIS CAUSED WORK TO EXISTING BUILDINGS, CONDUIT, PIPING, PLANTS, ETC. NEW WORK AND INSTALLATIONS SHALL BE MADE WITH MINIMAL INTERRUPTIONS OF SERVICES TO EXISTING BUILDINGS ANY INTERRUPTIONS REQUIRED SHALL BE SCHEDULED TO MINIMIZE INCONVENIENCE TO THE OWNER, AND AT TIMES AS APPROVED IN ADVANCE BY THE ARCHITECT. NEW WORK AND INSTALLATIONS SHALL NOT IMPAIR THE PROPER FUNCTIONING OF THE EXISTING FACILITY. THE COMPLETED PROJECT SHALL BE A PROPERLY FUNCTIONING ENTITY THROUGHOUT. FURNISH ALL LABOR AND MATERIALS REQUIRED TO RELOCATE, REMOVE, REINSTALL, RECONNECT, REPLACE, ETC., ANY EXISTING PIPING TO ACCOMMODATE THE WORK. MATERIALS SHALL BE AS SPECIFIED UNLESS OTHERWISE APPROVED I IN WRITING BY THE ARCHITECT. CONTRACTOR SHALL INCLUDE IN HIS BID ANY EXTRA WORK REQUIRED TO MINIMIZE SHUTDOWN TIME.
17. WHERE EQUIPMENT IS NOTED AND/OR SHOWN TO BE REMOVED AND/ OR RELOCATED, THIS REMOVAL AND/OR RELOCATION SHALL INCLUDE ALL PIPING, SUPPORT, TRIM, ETC. CONSIDERED TO BE A FUNCTIONING PART OF THE ITEM.
18. ALL EXISTING PIPING AND EQUIPMENT THAT IS REMOVED SHALL BE DISPOSED OF AS DIRECTED BY THE OWNER'S REPRESENTATIVE.
19. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
20. CONTRACTOR SHALL PATCH AND REPAIR ALL EXISTING WALLS, FLOORS AND CEILING OPENED DURING CONSTRUCTION TO MATCH EXISTING.
21. ALL UTILITIES BEING REMOVED FOR THE PROJECT SHALL BE REMOVED BACK TO ITS SOURCE.
22. UNLESS SPECIFICALLY SHOWN ON THESE PLANS NO STRUCTURAL MEMBER SHALL BE CUT, DRILLED NOR NOTCHED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE STRUCTURAL ENGINEER AND THE DISTRICT STRUCTURAL ENGINEER FROM THE DIVISION OF THE STATE ARCHITECT.
23. ALL PIPING AND RELATED VALVES AND FITTINGS TO BE DEMOLISHED SHALL BE DISPOSED AND REMOVED FROM THE PROJECT SITE.
24. ALL PIPING SHOWN TO BE DEMOLISHED AND/OR REMOVED SHALL BE CAPPED OFF AT THE POINT OF DEMOLITION AND CLEAR FROM INTERFERENCE FROM NEW WORK BEING INSTALLED.
25. ANY DISCREPANCIES ARISE BETWEEN THE PLUMBING DRAWINGS AND OTHER DISCIPLINES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID AND CONSTRUCTION.

LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	CW	COLD WATER
	S / W	SEWER / WASTE
	V	VENT
TP	TP	TRAP PRIMER
		DIRECTION OF FLOW
	SOV	SHUT-OFF VALVE
	BV	BALANCING VALVE
	FCO	FLOOR CLEANOUT
	WCO	CLEANOUT
		RISER UP
		RISER DOWN
	ABV	ABOVE
	BEL	BELOW
	CLG	CEILING
	COTG	CLEANOUT TO GRADE
	CONT	CONTINUATION
	DN	DOWN
	(E)	EXISTING
	FLR	FLOOR
	POC	POINT OF CONNECTION
		DEMOLITION KEYNOTE
		REMODEL KEYNOTE
		POINT OF DISCONNECT
	VTR	VENT THRU ROOF
	WHA	WATER HAMMER ARRESTOR

PIPE MATERIAL SCHEDULE

SERVICE			MATERIAL: SEAMLESS COPPER TUBING, TYPE L DRAWN TEMPER, ASTM B88 NO LEAD SOLDER FITTING	COPPER TYPE M,WSFS SOLDER OR SCHEDULE 40 PVC	BACK STEEL SCH 40	SERVICE WEIGHT CAST IRON SOIL PIPE WITH NO-HUB	HDPE - HIGH DENSITY POLYETHYLENE SDR 11	COPPER TYPE K SSS SOLDER	REMARKS
WATER	(CW)	ABOVE	●						5 PSI/100 FT. @ 8FT/S MAX VELOCITY
		BELOW						●	
WASTE & VENT	(W) (V)	ABOVE				●			GRAVITY @ 2% SLOPE. RESTROOM TO SUMP PIT
		BELOW				●			

A) MATERIALS FOR DRAINAGE PIPING SHALL BE IN ACCORDANCE WITH ONE OF THE REFERENCED STANDARDS IN TABLE 701.2. MATERIALS FOR BUILDING WATER PIPING AND BUILDING SUPPLY PIPING SHALL COMPLY WITH THE APPLICABLE STANDARD REFERENCED IN TABLE 604.1.
B) PIPING SUBJECT TO CORROSION SHALL BE PROTECTED IN AN APPROVED MANNER. PROVIDE THE METHOD OF PROTECTION FOR SUCH PIPING FOR UNDERGROUND INSTALLATIONS. [CPC 312.0]

SHEET INDEX

S.NO.	SHEET No.	SHEET TITLE
1	P-00.1	PLUMBING GENERAL NOTES AND LEGEND
2	P-00.2	PLUMBING SCHEDULE
3	PD-100	PLUMBING DEMOLITION PLAN
4	P-100	PLUMBING REMODEL ROOF PLAN
5	P-4.1	PLUMBING DETAILS

AGENCY APPROVAL

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oed optimum energy design
Consulting Engineers
5200 E. La Palma Ave
Anaheim, CA 92807
Telephone (714) 693-2277

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

3001 RED HILL AVENUE, SUITE 117, 118, 119,
COSTA MESA, CA 92626

-

DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — BRENT BANZHAF — No. M29053 Exp. 6/30/27 — MECHANICAL — STATE OF CALIFORNIA

TITLE
PLUMBING GENERAL NOTES AND LEGEND

SHEET #
P-001

PLUMBING FIXTURE SCHEDULE

ITEM	FIXTURE	ROUGH-IN CONNECTIONS						DESCRIPTION
		TRAP	WASTE	VENT	HOT WATER	COLD WATER	GAS	
WC 1	WATER CLOSET (ADA)	INT	4"	2"	--	1-1/2"	--	AMERICAN STANDARD "MADERA YOUTH" #2467.100, ADA, FLOOR MOUNTED, FLUSH TANK VITREOUS CHINA W/ ELONGATED BOWL. #5503A00B ELONGATED, FRONT SEAT LESS COVER. 1.1 GPF, ADA COMPLIANT. INSTALL PER MFR INSTRUCTIONS.
L 1	LAVATORY (ADA)	1-1/4"	2"	2"	1/2"	1/2"	--	AMERICAN STANDARD "LUCERNE" MODEL #0356.421 SINGLE CENTER HOLE, WALL-HUNG LAVATORY, VITREOUS CHINA. AMERICAN STANDARD #1340.119, DECK-MOUNTED METERING FAUCET, SINGLE-HOLE MOUNTING, 0.5 GPM. ADA COMPLIANT CHICAGO 1006-ABCP STOPS AND SUPPLIES, P-TRAP TRUEBRO LAVGUARD-2, STOPS AND SUPPLY AND P-TRAP INSULATION. JAY R. SMITH #0720 WALL MOUNTED CONCEALED ARMS SUPPORT OR EQUAL.
KS 1	BREAK ROOM SINK (ADA)	1-1/4"	2"	2"	1/2"	1/2"	--	JUST #DL-ADA-1933-A-GR, TWO COMPARTMENT SINK 33"X19", 18 GAUGE, TYPE 304 STAINLESS STEEL, 6 1/2" DEEP. CHICAGO FAUCET 2300-8ABCP, 2.2 GPM DECK MOUNTED, LEVEL HANDEL. PROVIDE CHICAGO STOPS, SUPPLIES AND LA PATTERN P-TRAP. COMPLETE WITH FOOD WASTE DISPOSER BADGER 5XP, 120 V, 3/4 HP.

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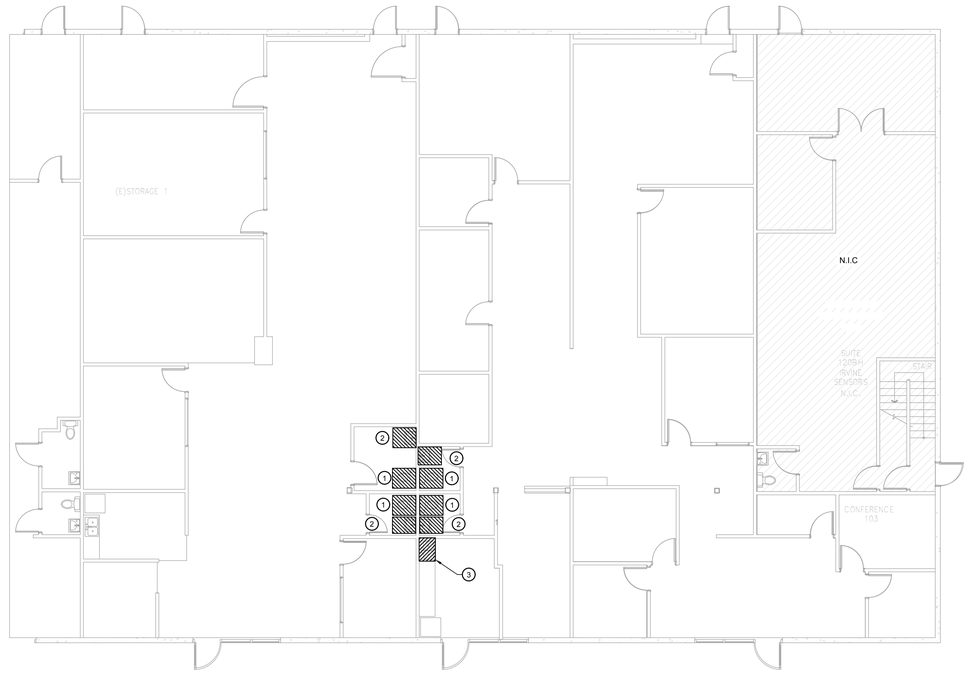
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER
ABBY BANCZEK
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

TITLE
PLUMBING SCHEDULES

SHEET #
P-002



N

PLUMBING DEMOLITION FLOOR PLAN | 1/8" = 1'-0" | 1

DEMOLITION KEY NOTES:

1. EXISTING WATER CLOSET AND WATER SUUPLY STOP TO BE REMOVED. CAP SEWER BELOW FLOOR, VENT AND WATER LINE IN WALL.
2. EXISTING LAVATORY, FAUCET, P-TRAP, STOPS AND SUPPLIES TO BE REMOVED. CAP EXISTING SEWER, VENT AND WATER LINES IN WALL.
3. EXISTING TWO COMP SINK, FAUCET, P-TRAP, STOPS AND SUPPLIES TO BE REMOVED. CAP EXISTING SEWER, VENT AND WATER LINES IN WALL.

DEMOLITION GENERAL NOTES :

1. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES FROM ALL ELECTRICAL EQUIPMENT AND SERVICE CLEARANCES FOR MECHANICAL EQUIPMENT.
3. CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF PIPE PENETRATIONS THRU' SHEAR WALLS. NO PIPE PENETRATIONS THRU' SHEAR WALLS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL PLANS.

AGENCY APPROVAL

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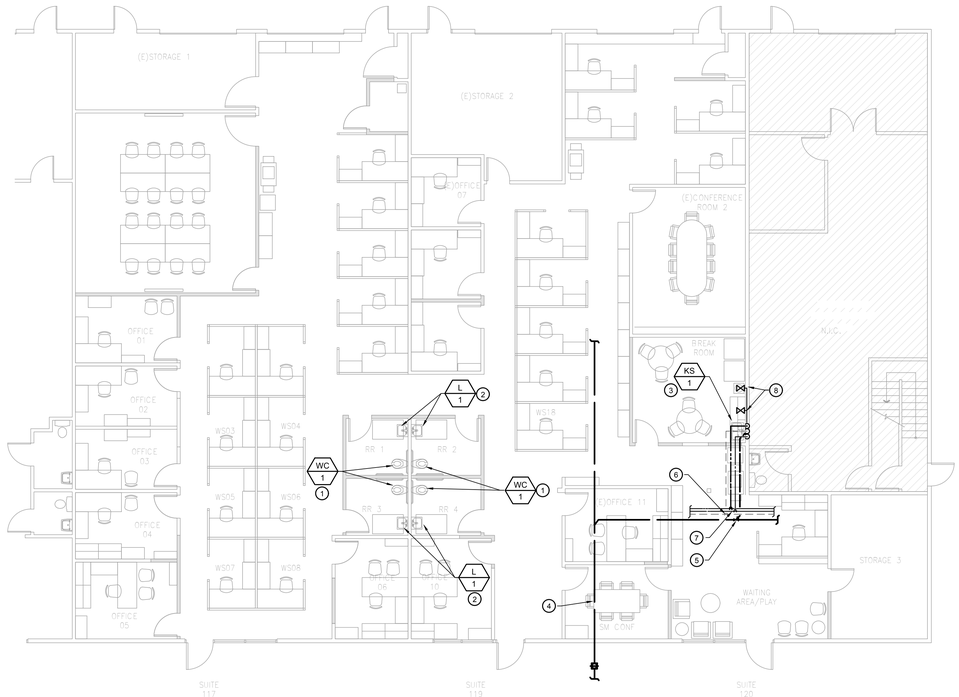
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — ABBY BANCZEK — No. M29253 Exp. 6/30/21 — MECHANICAL — STATE OF CALIFORNIA

TITLE
PLUMBING DEMOLITION FLOOR PLAN

SHEET #
PD-100



N

PLUMBING REMODEL FLOOR PLAN | 1/8" = 1'-0" | 1

CONSTRUCTION KEY NOTES:

1. FURNISH AND INSTALL NEW WATER CLOSET. R.I&C TO EXISTING 4"S BELOW FLOOR, 2" VENT AND 3/4"CW IN WALL
2. FURNISH AND INSTALL NEW LAVATORY, FAUCET AND FITTINGS. R.I&C TO EXISTING 2"S, 1 1/2" V, 1/2"CW & HW IN WALL.
3. FURNISH AND INSTALL NEW BREAKROOM SINK, FAUCET AND FITTINGS. R.I&C NEW 2"S W/ WCO, 1 1/2" V, 1/2"CW & HW.
4. EXISTING 4"S BEL GRADE. VERERIFY EXACT LOCATION, SIZE AND DEPTH IN FIELD
5. CONNECT NEW 2"S. TO EXISTING 4" SEWER BELOW FLOOR
6. CONNECT NEW 2"V TO EXISTING 2"V. ABOVE CEILING.
7. CONNECT NEW 1/2"CW & HW TO EXISTING ABOVE CEILING.
8. PROVIDE 1/2"CW TO COFFEE MAKE AND WATER DISPENSER. PROVIDE SHUT OFF VALVE

CONSTRUCTION GENERAL NOTES :

1. CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES AS NECESSARY PRIOR TO INSTALLATION.
2. CONTRACTOR SHALL MAINTAIN PROPER CLEARANCES FROM ALL ELECTRICAL EQUIPMENT AND SERVICE CLEARANCES FOR MECHANICAL EQUIPMENT.
3. CONTRACTOR SHALL COORDINATE ALL LOCATIONS OF PIPE PENETRATIONS THRU' SHEAR WALLS. NO PIPE PENETRATIONS THRU' SHEAR WALLS UNLESS SPECIFICALLY SHOWN ON STRUCTURAL PLANS.
4. ALL INSULATION SHALL HAVE A FLAME SPREAD OF NOT MORE THAN 25 AND A SMOKE DENSITY NOT EXCEEDING 50.

AGENCY APPROVAL

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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TENANT IMPROVEMENT

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DATE **09/04/2026**

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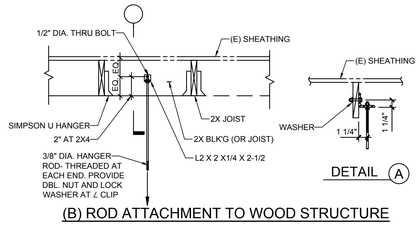
DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER
JOHN BANCHERO
No. M29253
Exp. 6/30/27
MECHANICAL
STATE OF CALIFORNIA

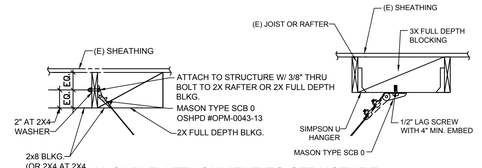
TITLE
PLUMBING REMODEL FLOOR PLAN

SHEET #
P-100

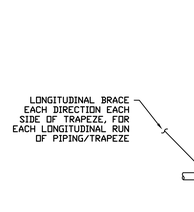
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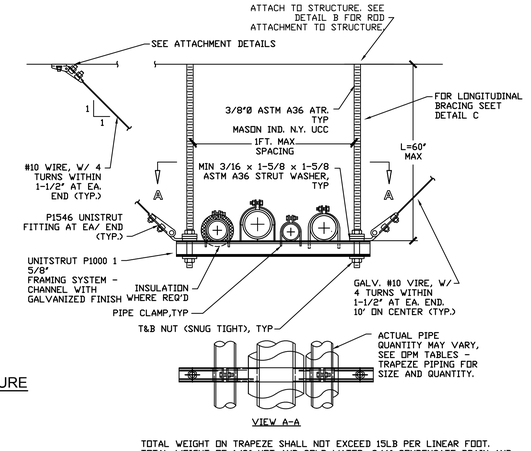
(B) ROD ATTACHMENT TO WOOD STRUCTURE



(A) CABLE ATTACHMENT TO STRUCTURE



(C) LONGITUDINAL BRACING TO STRUCTURE



TOTAL WEIGHT ON TRAPEZE SHALL NOT EXCEED 15LB PER LINEAR FOOT.
TOTAL WEIGHT OF 1/2" HOT AND COLD WATER, 3/4" CONDENSATE DRAIN AND 2" VENT PIPING DOES NOT EXCEED 8LBS PER LINEAR FOOT.

--	PIPE HANGER SUPPORT DETAIL	SCALE NONE	1

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DATE **09/04/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER ABBY BANCROFT No. M29253 Exp. 6/30/27 MECHANICAL STATE OF CALIFORNIA

TITLE

PLUMBING DETAILS

SHEET #

P-300

ELECTRICAL LEGEND

Symbol	Description
L1A	POWER PANELBOARD "L1A". MOUNT TOP OF PANEL AT 6'-0" ABOVE FINISHED FLOOR. SEE PANELBOARD SCHEDULE FOR EQUIPMENT CONTAINED IN PANELBOARD AND PANELBOARD RATINGS.
J	JUNCTION BOX, SIZE AND USE AS REQUIRED; COVERPLATE SHALL OVERLAP THE BOX EDGE BY 1/2" WHERE RECESSED IN WALL WITH CONCEALED WIRING.
▽	(4) RJ-45 DATA OUTLETS W/FACEPLATE AND 1" CONCEALED CONDUIT STUB UP TO ACCESSIBLE CEILING AND EXTEND CONDUIT TO 6" AWAY FROM CABLE TRAY
TV ▽	VIDEO/CABLE OUTLET - (1) F-BARREL COAX CONN. W/FACEPLATE AND 1" CONCEALED CONDUIT STUB UP TO ACCESSIBLE CEILING AND EXTEND CONDUIT TO 6" AWAY FROM CABLE TRAY.
	SPECIAL RECEPTACLE, +18" AFF, SEE FLOOR PLAN FOR DETAIL.
D GFI IG WPC	TAMPER RESISTANT DUPLEX RECEPTACLE - 125V, 20A. MOUNT 3" ABOVE BACKSPLASH AT WORK COUNTERS AND LAVATORIES AND 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. "GFI" INDICATES GROUND FAULT CIRCUIT INTERRUPTER TYPE, "WPC" INDICATES EXTRA HEAVY DUTY WEATHERPROOF METAL COVER AND SHALL BE "CLOSED WHILE IN USE". "IG" INDICATES ISOLATED GROUND RECEPTACLE, ORANGE IN COLOR. "D" INDICATES DEDICATED RECEPTACLE. PROVIDE COMMERCIAL SPECIFICATION GRADE RECEPTACLES.
	TAMPER RESISTANT QUADRUPLEX CONVENIENCE OUTLET - 125V, 20A. MOUNT 18" ABOVE FINISHED FLOOR UNLESS OTHERWISE NOTED. PROVIDE COMMERCIAL SPECIFICATION GRADE RECEPTACLES.
	CEILING-MOUNTED DUPLEX/QUADPLEX RECEPTACLE 20A, 125V, 3WG, (2) NEMA 5-20R U.N.O.
30A	FUSED DISCONNECT SWITCH. "30" INDICATES SWITCH SIZE. HEAVY DUTY "HP" RATED. PROVIDE NEMA 3R ENCLOSURE OUTDOORS. FUSE PER EQUIPMENT NAMEPLATE DATA.
30A	NON-FUSED DISCONNECT SWITCH. "30" INDICATES SWITCH SIZE. HEAVY DUTY "HP" RATED. PROVIDE NEMA 3R ENCLOSURE OUTDOORS.
NEMA 1	COMBINATION MOTOR STARTER/DISCONNECT WITH THERMAL OVERLOAD PROTECTION. FVNR, HOA SELECTOR, VOLTAGE PER PLANS, CONTROL TRANSFORMER. MOUNT AT +48" ABOVE FINISHED FLOOR. "NEMA 1" INDICATES NEMA STARTER SIZE.
— — — —	CONDUIT UNDERGROUND, 1"C MINIMUM, UNLESS NOTED OTHERWISE.
LP1-1,3,5	HOMERUN - LP1 INDICATES PANELBOARD; 1,3,5 INDICATE CIRCUIT NUMBERS. SEE PANELBOARD DESIGNATION SCHEDULE FOR ADDITIONAL INFORMATION.
X	EXIT SIGN, "X" INDICATES FIXTURE TYPE. SHADED QUADRANTS INDICATE ILLUMINATED FACE. PROVIDE DIRECTIONAL ARROWS AS INDICATED ON PLANS. UNIT EQUIPPED WITH BATTERY BACK-UP AND WIRED TO UNSWITCHED HOT.
	EMERGENCY/EXIT LIGHT COMBO UNIT, BATTERY BACK-UP POWERED. WIRE UNIT TO UNSWITCHED HOT ON CIRCUITS SHOWN.
	EMERGENCY LIGHTING UNIT, BATTERY BACK-UP POWERED. WIRE UNIT TO UNSWITCHED HOT ON CIRCUITS SHOWN.
A NL L1A-3b	LED DOWNLIGHT. "A" IS THE FIXTURE TYPE IN THE FIXTURE SCHEDULE, "L1A-3" INDICATES WHICH PANELBOARD AND CIRCUIT THE FIXTURE IS FED FROM, AND "b" INDICATES WHICH SWITCH CONTROLS THE FIXTURE. "NL" INDICATES A NIGHT LIGHT FIXTURE, (CONNECT FIXTURE TO UNSWITCHED HOT SO THAT FIXTURE STAYS ON AT ALL TIMES).
AE L1A-3	LED DOWNLIGHT WITH BUILT IN EMERGENCY BATTERY PACK TO PROVIDE LIGHTING WHEN NORMAL POWER IS NOT AVAILABLE. PROVIDE UNSWITCHED "HOT" CONDUCTOR (FROM SAME CIRCUIT FIXTURE IS USING) TO BATTERY PACK, IN ORDER TO ALLOW NORMAL SWITCHING OF LIGHT FIXTURE WITHOUT DISCHARGING BATTERY PACK. ANY FIXTURE SYMBOL THAT HAS SHADING INDICATES THAT FIXTURE HAS AN EMERGENCY BATTERY BACK-UP.
A L1A-3b	LED LIGHTING FIXTURE. "A" IS THE FIXTURE TYPE IN THE FIXTURE SCHEDULE, "L1A-3" INDICATES WHICH PANELBOARD AND CIRCUIT THE FIXTURE IS FED FROM, AND "b" INDICATES WHICH SWITCH CONTROLS THE FIXTURE.
AE NL L1A-3	LED LIGHTING FIXTURE WITH BUILT IN EMERGENCY BATTERY PACK TO PROVIDE LIGHTING WHEN NORMAL POWER IS NOT AVAILABLE. PROVIDE UNSWITCHED "HOT" CONDUCTOR (FROM SAME CIRCUIT FIXTURE IS USING) TO BATTERY PACK IN ORDER TO ALLOW NORMAL SWITCHING OF LIGHT FIXTURE WITHOUT DISCHARGING BATTERY PACK. ANY FIXTURE SYMBOL THAT HAS SHADING INDICATES THAT FIXTURE HAS AN EMERGENCY BATTERY BACK-UP. "NL" INDICATES A NIGHT LIGHT FIXTURE, (CONNECT FIXTURE TO UNSWITCHED HOT SO THAT FIXTURES STAYS ON AT ALL TIMES).
$	SINGLE POLE TOGGLE SWITCH, WALL MOUNTED, +44" AFF.
$C	LIGHT SWITCH CUSTOMIZED, MOUNTED AT +44" AFF.
$O	INTELLIGENT VACANCY/OCCUPANCY SENSOR SWITCH, WALL MOUNTED, +44" AFF.
$D	DIMMABLE LIGHT SWITCH, WALL MOUNTED, +44" AFF.
OS WM	OCCUPANCY SENSOR, CEILING MOUNTED. "WM" INDICATES WALL MOUNTED AT +44" AFF.
	EXTENT OF DEMOLITION
	NEW TO EXISTING CONNECTION
1	WORK ITEM (ELECTRICAL)
1 E1.0	DETAIL DESIGNATION
	ELEVATION NUMBER / DRAWING NUMBER
	DETAIL NUMBER / DRAWING NUMBER (IF BLANK, SAME SHEET)

ELECTRICAL ABBREVIATIONS

A	AMPERES	G	GROUNDING CONDUCTOR	PNL	PANEL
AC	ALTERNATING CURRENT	GFI/GFCI	GROUND FAULT INTERRUPTER	<R>	REMOVE
AF	ARC FAULT	HP	HORSEPOWER	<RRN>	REMOVE AND REPLACE WITH NEW
A.F.F.	ABOVE FINISHED FLOOR	JB	JUNCTION BOX	<RR>	REMOVE AND RELOCATE AS SHOWN
A.F.G.	ABOVE FINISHED GRADE	KCMIL MCM	THOUSANDS OF CIRCULAR MILS	SP	SWITCH PACK
AL	ALUMINUM	KV	KILOVOLTS	SLP	SLAVE PACK
AWG	AMERICAN WIRE GAUGE	KVA	KILOVOLT-AMPERES	SL	SECURITY LIGHT
C	CONDUIT	KW	KILOWATTS	SPD	SURGE PROTECTIVE DEVICE
CKT	CIRCUIT				
CLG	CEILING	LCP	LIGHTING CONTROL PANEL	SW	SWITCH
CND	CONDUIT	LTG	LIGHTING	SWBD	SWITCHBOARD
CU	COPPER	LT SW	LIGHT SWITCH	SWGR	SWITCHGEAR
DC	DIRECT CURRENT	MIN.	MINIMUM	TBR	TO BE REMOVED
DISC	DISCONNECT	<N>	NEW	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
DWG.	DRAWING	N.C.	NORMALLY CLOSED		
<E>	EXISTING	N.I.C.	NOT IN CONTRACT	TYP; (TYP)	TYPICAL
ELEC.	ELECTRICAL/ELECTRIC	N.O.	NORMALLY OPEN	V	VOLT
ELEV	ELEVATION	NEC	NATIONAL ELECTRICAL CODE	VIF	VERIFY IN FIELD
EM	EMERGENCY	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOC.	UNO	UNLESS NOTED OTHERWISE
EQ	EQUAL			VFD	VARIABLE FREQUENCY DRIVE
FWE	FURNISHED WITH EQUIPMENT	NL	NIGHT LIGHT	W	WATT
<F>	FUTURE	PH	PHASE	WP	WEATHERPROOF (NEMA 3R)
FIXT	FIXTURE	PB	PULL BOX	XFMR	TRANSFORMER

SUMMARY OF WORK

1. COORDINATE WITH OCDE FOR LOW VOLTAGE SYSTEM (TELECOM, SECURITY CAMERAS, ACCESS CONTROL, A/V, PA, ETC.) CONNECTION REQUIREMENT.
2. FURNISH AND INSTALL ELECTRICAL DEVICES/EQUIPMENT PER PLAN. PROVIDE STRUCTURAL MOUNTING PER SEISMIC REQUIREMENT.
3. PROVIDE SHORT CIRCUIT CALCULATIONS AND ARC FLASH STUDY FOR NEW ELECTRICAL EQUIPMENT AFTER MANUFACTURERS ARE SELECTED. ARC FLASH LABELS SHALL BE PROVIDED AND INSTALLED ON ALL NEW ELECTRICAL EQUIPMENT.
4. FURNISH AND INSTALL ELECTRICAL PANEL WITH NEW. COORDINATE WITH SCE FOR POWER SHUTDOWN AND RE-ENERGIZE. COORDINATE WITH SCE FOR AVAILABLE FAULT CURRENT AND PROVIDE ELECTRICAL PANELBOARD WITH SUITABLE SCCR RATING.
5. FOR ALL POWER SHUTDOWN OR CUTOVER, CONTRACTOR SHALL SUBMIT MOP (METHOD OF PROCEDURE) TO OCDE AND EEOR FOR APPROVAL. PROVIDE TEMPORARY POWER, HVAC, AND LIGHTING DURING CONSTRUCTION AS REQUIRED BY OCDE.
6. CONTRACTOR IS RESPONSIBLE TO REWIRE CIRCUITS/CONDUITS TO MAINTAIN ADJACENT SPACES (OUT OF AREA OF SCOPE.
7. CONTRACTOR IS RESPONSIBLE TO OBTAIN ALL THE PERMITS AND ASSOCIATED FEES AS REQUIRED IN THS PROJECT.

GENERAL ELECTRICAL NOTES

1. CONTRACTOR IS RESPONSIBLE TO OBTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, ADDENDA, DRAWINGS, AND SPECIFICATIONS. PRIOR TO SUBMITTING PROPOSAL, CONTRACTOR SHALL EXAMINE ARCHITECTURAL, STRUCTURAL AND MECHANICAL CONSTRUCTION DRAWINGS AND SPECIFICATIONS AND SHALL HAVE VISITED THE CONSTRUCTION SITE. HE/SHE SHALL BE FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH HE/SHE WILL HAVE TO OPERATE AND WHICH WILL IN ANY WAY AFFECT THE WORK UNDER THIS CONTRACT. NO SUBSEQUENT ALLOWANCE WILL BE MADE IN THIS CONNECTION IN BEHALF OF THE CONTRACTOR FOR ANY ERROR OR NEGLIGENCE ON HIS/HER PART. DETERMINE THE SEQUENCE OF CONSTRUCTION THROUGHOUT THE PROJECT, INCLUDING TEMPORARY FACILITIES AND CONNECTIONS REQUIRED FOR THE DURATION OF THE PROJECT.

2. ALL TEMPORARY CONNECTIONS SHALL BE CONSIDERED PART OF THIS CONTRACT AND NO EXTRA CHARGES WILL BE ALLOWED. THIS SHALL INCLUDE MINOR ITEMS OF MATERIAL OR EQUIPMENT NECESSARY TO MEET THE REQUIREMENTS AND INTENT OF THE PROJECT.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF PERSONS AND PROPERTY AND SHALL PROVIDE INSURANCE COVERAGE AS NECESSARY FOR LIABILITY, PERSONAL, AND PROPERTY DAMAGE, TO FULLY PROTECT THE OWNER, ARCHITECT, AND ENGINEER FROM ANY AND ALL CLAIMS RESULTING FROM THIS WORK.

4. THE CONTRACTOR SHALL PROVIDE TO THE ARCHITECT A CONSTRUCTION SCHEDULE OF ALL ELECTRICAL WORK. THE CONSTRUCTION SCHEDULE SHALL IDENTIFY ALL SIGNIFICANT MILESTONES WITH COMPLETION DATES.

5. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS AT THE PROJECT SITE INDICATING ALL MODIFICATIONS TO ELECTRICAL SYSTEMS. THE CONTRACTOR SHALL, AT THE CONCLUSION OF THE PROJECT, PROVIDE A SET OF REPRODUCIBLE (AUTOCAD), ACCURATE AND NEAT "AS-BUILT" DRAWINGS ACCEPTABLE TO THE ARCHITECT.

6. THESE DRAWINGS DO NOT REPRESENT THE EXACT LOCATIONS, SIZES OR EXTENT OF UTILITIES ON SITE. CONTRACTOR SHALL TAKE STANDARD PRECAUTIONS FOR WORK IN EXISTING FACILITIES.

7. EXISTING ELECTRICAL WIRING WHICH WILL NOT BE MADE OBSOLETE AND WHICH WILL BE DISTURBED DUE TO CONSTRUCTION CHANGES REQUIRED BY THIS CONTRACT SHALL BE RESTORED TO OPERATING CONDITION, AS REQUIRED AND/OR DIRECTED. WHERE REQUIRED, SHOWN AND/OR DIRECTED, OUTLETS AND CONDUIT RUNS SHALL BE RELOCATED. IN SOME CASES IT MAY BE NECESSARY TO EXTEND CONDUITS AND PULL IN NEW WIRING OR INSTALL JUNCTION BOXES AND SPLICE IN NEW WIRING OR REPLACE OLD WIRING WITH NEW.

8. CERTAIN REMODELING OF ELECTRICAL FACILITIES WILL BE REQUIRED IN THE EXISTING BUILDING. EXISTING CONDUIT RUNS ARE GENERALLY NOT SHOWN, ALTHOUGH A FULL ATTEMPT HAS BEEN MADE TO SHOW SOME EXISTING CONDITIONS, OF WHICH INFORMATION HAS BEEN TAKEN FROM EXISTING RECORD DRAWINGS AND/OR LIMITED FIELD INVESTIGATIONS. THE DRAWINGS SHOWING LOCATION OF EXISTING EQUIPMENT, OUTLETS, FIXTURES, ETC., ARE APPROXIMATE ONLY (CONTRACTOR TO FIELD VERIFY).

9. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL BE LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY AND SHALL BE INSTALLED AS PER LISTING OR LABELING (IE. MAXIMUM FUSE SIZE MEANS FUSE PROTECTION IS REQUIRED).

10. ALL ELECTRICAL EQUIPMENT AND INSTALLATION SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
a. AMERICAN STANDARD ASSOCIATION (ASA)
b. AMERICAN NATIONAL STANDARD INSTITUTE (ANSI)
c. AMERICAN SOCIETY OF TESTING MATERIALS (ASTM)
d. CALIFORNIA CODE OF REGULATIONS TITLE 24 (CCR)
e. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE)
f. INSULATED POWER CABLE ENGINEERS ASSOCIATIONS (IPCEA)
g. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS (NEMA)
h. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
i. ALL LOCAL CODE HAVING JURISDICTION

11. CONTRACTOR SHALL SECURE AND PAY FOR ALL PERMITS, FEES, INSPECTIONS AND INCIDENTAL COSTS NECESSARY FOR EXECUTION AND COMPLETION OF ELECTRICAL WORK, INCLUDING ALL CHARGES BY STATE, COUNTY AND LOCAL GOVERNMENTAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ELECTRICAL UTILITY SYSTEM SHUT-DOWNS AND START-UP. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION REQUIRED WITH OTHER AGENCIES AND UTILITY COMPANIES.

12. CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL CROSSINGS ON NEW UTILITIES WITH THAT OF EXISTING ON SITE AND IN ADJACENT PROPERTIES. NOTIFY THE ENGINEER IMMEDIATELY OF ANY DEVIATIONS OR DISCREPANCIES FROM THIS PLAN.

13. CONTRACTOR SHALL COORDINATE HIS/HER WORK WITH OTHER TRADE ON SITE. ANY COST TO PERFORM WORK TO ACCOMPLISH SAID COORDINATION WHICH DIFFERS FROM THE WORK AS SHOWN ON THE DRAWINGS SHALL BE INCURRED BY THE CONTRACTOR. ANY DISCREPANCIES, AMBIGUITIES OR CONFLICTS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT DURING BID TIME FOR CLARIFICATIONS. ANY SUCH CONFLICTS NOT CLARIFIED PRIOR TO BID SHALL BE SUBJECT TO THE INTERPRETATION OF THE ARCHITECT/ENGINEER AT NO ADDITIONAL COST TO THE OWNER.

14. COORDINATE WITH OTHER TRADES AS TO THE EXACT LOCATION OF THEIR RESPECTIVE EQUIPMENT. PROVIDE POWER AND CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS AS INDICATED ON ELECTRICAL DRAWINGS AND DRAWINGS OF OTHER TRADES. CONTRACTOR SHALL REVIEW DRAWINGS OF OTHER TRADES FOR CONTROL DIAGRAMS, SIZE AND LOCATION OF EQUIPMENT. DISCONNECT SWITCHES, STARTERS, AND CONDUITS FOR CONTROL WIRING FOR MECHANICAL AND PLUMBING EQUIPMENT SHALL BE PROVIDED BY ELECTRICAL CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING MANUFACTURER'S SHOP DRAWINGS PRIOR TO ROUGHING IN ALL CONDUITS TO THIS EQUIPMENT.

15. BEFORE ROUGH-IN, VERIFY ALL MOUNTING HEIGHTS AND EXACT LOCATIONS FOR ALL EQUIPMENT, ELECTRICAL CONNECTIONS, STUB-UPS, RECEPTACLES, OUTLETS, CONDUIT RUNS, ETC. WITH ARCHITECT AND OWNER. PLACE DEVICES LOCATED ABOVE COUNTERS, SHELVING, ETC. AND IN BATHROOMS SO AS NOT TO CONFLICT WITH EDGES OF WAINSCOTING, COUNTER SPLASH, SHELVING, ETC. ARCHITECTURAL DRAWINGS SHALL GOVERN. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT LOCATIONS OF ELECTRICAL DEVICES

16. MOUNTING HEIGHTS OF ALL CONTROL DEVICES TO BE USED BY OCCUPANT OF THE ROOM OR AREA SHALL BE MOUNTED AT THE FOLLOWING HEIGHTS:
RECEPTACLES OUTLETS : +18" (TO BOTTOM OF OUTLETS)
TELEPHONE/TV/DATA OUTLETS : +18" (TO BOTTOM OF OUTLETS)
LIGHT SWITCHES : +44" (TO HIGHEST OPERABLE PART)
OUTLETS ABOVE COUNTER : +44" (TO HIGHEST OPERABLE PART)
MOUNTING HEIGHTS OF ALL DEVICES AND EQUIPMENT ARE FROM FINISHED FLOOR TO LOCATION OF DEVICE AS NOTED. EQUIPMENT INSTALLED IN LOCATIONS NOT APPROVED BY THE ARCHITECT SHALL BE RELOCATED AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.

17. COORDINATE ALL OUTLET BOX INSTALLATION WITH ARCHITECTURAL WALL FINISH SCHEDULES. SPACE BETWEEN FACEPLATE AND DEVICE BOX SHALL NOT EXCEED 1/8".

18. FOR RENOVATION WORK, THE CONTRACTOR SHALL CONCEAL ALL WORK WHERE POSSIBLE. ALL EXPOSED RACEWAY AND BOXES IN OCCUPIED AREAS OR ON EXTERIOR WALLS SHALL BE PAINTED TO MATCH ADJACENT FINISHES.

19. THE CONTRACTOR SHALL BE HELD FULLY RESPONSIBLE FOR THE PROPER RESTORATION OF ALL EXISTING SURFACES REQUIRING PATCHING, PLASTERING, PAINTING AND/OR OTHER REPAIR DUE TO THE INSTALLATION OF ELECTRICAL WORK UNDER THE TERMS OF THIS SPECIFICATION. CLOSE ALL OPENINGS, REPAIR ALL SURFACES, ETC., AS REQUIRED.

20. SEAL ALL CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS. FURNISH AND INSTALL FIRE RATED BACKBOXES AS REQUIRED, MAINTAINING FIRE RATING OF CEILING OR WALLS WHERE RECESSED ELECTRIC EQUIPMENT SUCH AS LIGHT FIXTURES, SWITCHES, RECEPTACLES, PANEL, ETC. ARE INSTALLED IN RATED WALL OR CEILINGS. PENETRATIONS OF FIRE RATED WALLS, CEILINGS, OR FLOORS SHALL COMPLY WITH CBC CHAPTER 7 (714) REQUIREMENTS. CONDUIT PENETRATIONS THAT ARE NOT STUBBED-OUT INSIDE THE WALL SHALL MEET F AND T RATING. ALL FIRE PROOFING METHODS SHALL BE UL APPROVED.

21. ALL EXTERIOR EQUIPMENT SHALL BE NEMA 3R RATED. ALL WALL PENETRATIONS TO EXTERIOR WALLS SHALL BE SEALED WATER TIGHT.

22. PULLING TAPES: ALL RACEWAY WITHOUT CABLE OR WIRE SHALL BE INSTALLED WITH A MINIMUM 1100 LBS. STRENGTH TEST POLYESTER PULLING TAPE. PULLING TAPES SHALL BE DETECTABLE MULE-TAPE WITH SEQUENTIAL FOOTAGE MARKING.

23. RUN NO MORE THAN 3 CURRENT CARRYING CONDUCTORS IN ANY WIREWAY UNLESS DE-RATING IS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.

24. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER, #10 AWG MINIMUM, RATED FOR 600V, THHN/THWN, 75 DEGREE CELSIUS. ALL CONDUCTORS SHALL BE STRANDED, SOFT DRAWN ANNEALED COPPER WIRE 98% CONDUCTIVITY, BEARING THE UL LABEL. SYSTEM VOLTAGE SHALL BE IDENTIFIED AS TO VOLTAGE AND PHASE CONNECTIONS BY MEANS OF COLOR IMPREGNATED INSULATION OR APPROVED COLORED MARKING TAPE.

25. WHERE MULTI-HOMERUNS ARE INDICATED ON DRAWINGS INDICATING THE SAME CIRCUIT NUMBER, PROVIDE A JUNCTION BOX ABOVE THE ACCESSIBLE CEILING AND ROUTE ONE SET OF WIRES TO THE CIRCUIT BREAKER.

26. REFER TO THE SINGLE LINE DIAGRAM FOR THE CONDUIT AND CONDUCTOR SIZES HOMERUN TO ELECTRICAL PANELS. CONDUIT RUNS MAY NOT BE SHOWN ON DRAWINGS, BUT ARE PART OF THIS CONTRACT.

27. ALL CONDUIT RUNS INCLUDING STRAIGHT FEEDER AND BRANCH CIRCUIT SHALL BE PROVIDED WITH SUFFICIENT PULL BOXES OR JUNCTION BOXES TO LIMIT THE MAXIMUM LENGTH OF ANY SINGLE CABLE PULL TO 100 FEET. PULL BOXES SHALL BE SIZED PER CODE OR AS INDICATED ON DRAWINGS. LOCATIONS SHALL BE DETERMINED IN THE FIELD OR AS INDICATED ON THE DRAWINGS.

28. FINAL CONNECTIONS TO ALL EQUIPMENT SHALL BE PER MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIAL AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.

29. DO NOT COMBINE DIFFERENT SYSTEM VOLTAGES IN SAME CONDUIT (EG., 120/208V VS. 277/480V), UNLESS APPROVED BY ENGINEER OR SHOWN ON DRAWINGS.

30. ELECTRICAL SYSTEMS SHALL BE INSTALLED FOR FINAL INSPECTIONS. PROVIDE NEUTRAL TEST AND PROOF OF TORQUE DURING FINAL INSPECTION FOR ALL UNITS. FINAL TERMINATIONS OF CONDUCTORS TO ELECTRICAL EQUIPMENT AND DEVICES SHALL BE TORQUE WRENCH TIGHTENED TO THE MANUFACTURER'S RECOMMENDED SPECIFICATION, NO EXCEPTION.

31. CIRCUIT BREAKER TERMINALS IN SWITCHBOARDS AND LOAD CENTER SHALL BE UL LISTED AND APPROVED FOR USE WITH COPPER 75 DEGREE CELSIUS CONDUCTORS.

32. SIZES OF BREAKERS, SWITCHES, FUSES AND FEEDERS ARE BASED ON DESIGNED EQUIPMENT SIZES. THESE SIZES SHALL BE ADJUSTED TO SATISFY REQUIREMENTS OF ACTUAL INSTALLED OR SUBSTITUTE EQUIPMENT. UP SIZING OR DOWNSIZING OF FEEDERS SHALL BE PROVIDED WITHOUT ADDITIONAL COST TO THE OWNER.

33. AS REQUIRED ALL OVERSIZED FEEDERS THAT WERE ADJUSTED IN SIZE TO COMPENSATE FOR VOLTAGE DROP SHALL BE PROVIDED WITH ADAPTER LUGS OR SPLICE BOX. ADAPTER LUGS SHALL BE PROVIDED IF SIZE IS AVAILABLE. OTHERWISE PROVIDE CABLE SPLICES IN THE SPLICE BOX TO REDUCE CABLES TO THE MAXIMUM SIZE THAT THE BREAKER LUGS CAN ACCOMMODATE.

34. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAW-CUTTING, TRENCHING, BACKFILLING, COMPACTION AND PATCHING OF CONCRETE AND ASPHALT AS REQUIRED TO COMPLETE WORK. USE EXTREME CAUTION WHEN TRENCHING NEAR EXISTING UNDERGROUND UTILITY LINES. CONTRACTOR SHALL PROVIDE ALL REQUIRED CUTTING, PATCHING, PAINTING, AND REPAIRS NECESSARY TO RESTORE DAMAGED SURFACES TO EQUAL OR BETTER THAN ORIGINAL CONDITIONS EXISTING AT THE START OF WORK.

35. ALL ELECTRICAL EQUIPMENT SHALL BE BRACED OR ANCHORED TO RESIST HORIZONTAL FORCE ACTING IN ANY DIRECTION IN ACCORDANCE WITH THE REQUIREMENTS OF THE LATEST EDITION OF ASCE7.

36. ALL INTERIOR AND ABOVE GRADE EXTERIOR CONDUIT INSTALLATION SHALL BE RIGID GALVANIZED STEEL, UNLESS EXCEPTED BY NOTE 37 BELOW.

37. ELECTRICAL METALLIC TUBING (EMT) MAY BE USED IN THE FOLLOWING CONDITIONS:
INTERIOR APPLICATIONS, SMALLER THAN 2" TRADE SIZE DIAMETER AND INSTALLED EIGHT (8) FEET FROM FINISHED FLOOR OR HIGHER, OR INTERIOR APPLICATIONS, SMALLER THAN 2" TRADE SIZE DIAMETER AND ENTERING A PANEL FROM ABOVE.

38. CONNECTIONS TO VIBRATING EQUIPMENT (MOTOR, TRANSFORMER ENCLOSURE, ETC.) AND SEISMIC SEPARATIONS SHALL BE PROVIDED WITH LIQUID-TIGHT FLEXIBLE STEEL CONDUIT WITH WATERTIGHT CONNECTORS. MAXIMUM LENGTH OF CONDUIT SHALL BE SIX FEET, UNLESS OTHERWISE NOTED.

39. POLYVINYL CHLORIDE (PVC) SCHEDULE 40 MAY BE INSTALLED BENEATH SLAB AND UNDERGROUND INSTALLATION. INSTALL PVC COATED RIGID STEEL CONDUIT FOR TRANSITION FROM UNDERGROUND TO ABOVE GRADE INSTALLATION.

40. CONTRACTOR SHALL PROVIDE TERMINATIONS FOR ALL DATA/VOICE CABLES INDICATED AT OUTLET LOCATIONS INDICATED ON DRAWINGS.

41. CONTRACTOR SHALL PROVIDE AND INSTALL ACCESS PANELS IN NON-ACCESSIBLE CEILINGS WHERE REQUIRED TO ACCESS ELECTRICAL EQUIPMENT IN CEILING SPACE. ACCESS DOORS SHALL HAVE FIRE RATING EQUAL TO THE CEILING ASSEMBLY IN WHICH THEY ARE INSTALLED.

42. ALL FIRE LIFE SAFETY EQUIPMENT, SUCH AS FIRE ALARM CONTROL PANEL AND REMOTE POWER SUPPLIES SHALL BE PROVIDED WITH DEDICATED CIRCUITS. IDENTIFY CIRCUIT DESIGNATION AND PROVIDE PERMANENT LABELING, "FIRE ALARM CIRCUIT" ON ELECTRICAL PANEL. PROVIDE LOCKABLE CIRCUIT BREAKER.

43. CONTROL CONDUIT FOR ENERGY/BUILDING MANAGEMENT SYSTEM (E/BMS) SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL CONTRACTOR.

44. ROUTE CONDUIT PARALLEL AND PERPENDICULAR TO WALLS AND ADJACENT PIPING. ARRANGE CONDUIT TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.

45. WHEN A DISCREPANCY IN QUANTITY OR SIZE OF CONDUIT, WIRE, EQUIPMENT, CIRCUIT BREAKERS, ETC., ARISES ON THE DRAWINGS OR SPECIFICATIONS, CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL MATERIAL REQUIRED BY THE MOST STRINGENT CONDITIONS NOTED ON THE DRAWINGS OR IN THE SPECIFICATIONS TO PROVIDE A COMPLETE AND OPERABLE SYSTEM, OR AS DIRECTED BY ENGINEER.

46. FOR SMALL AC MOTORS NOT HAVING BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE MANUAL MOTOR STARTERS WITH OVERLOAD HEATER ELEMENTS SIZED PER MANUFACTURER'S RECOMMENDATION. FOR SMALL AC MOTORS WITH BUILT-IN THERMAL OVERLOAD PROTECTION, PROVIDE A HORSEPOWER RATED TOGGLE DISCONNECT SWITCH.

47. DISCONNECT SAFETY SWITCHES SHALL BE HEAVY DUTY AND BE RATED FOR THE NUMBER OF POLES, VOLTAGE, CURRENT AND HORSEPOWER RATING AS REQUIRED. PROVIDE FUSE PROTECTION BASED ON THE MOTOR NAMEPLATE RATINGS.

48. PROVIDE PERMANENT IDENTIFICATION (NAMEPLATES) FOR ALL ELECTRICAL PANELS, SWITCHBOARDS, MOTOR CONTROL CENTERS, DISCONNECT SWITCHES, TRANSFORMERS, TERMINAL CABINETS, ETC.

49. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY TYPE OF CEILING SYSTEMS AND TO FURNISH APPROVED LIGHTING FIXTURES OF THE TYPE REQUIRED FOR MOUNTING IN SUBJECT CEILING. PROVIDE ALL NECESSARY MOUNTING KIT/HARDWARE TO PROVIDE A COMPLETE WORKING LIGHTING SYSTEM.

50. ALL FINAL ELECTRICAL CONNECTIONS TO OWNER FURNISHED EQUIPMENT SHALL BE MADE BY THE ELECTRICAL CONTRACTOR

51. ALL SPLICES AND TERMINALS SHALL BE COMPRESSION TYPE, OF SEAMLESS PURE COPPER, TIN PLATED, LONG BARREL, INSPECTION WINDOW, TERMINALS WITH TWO-HOLE PAD (WITH NEMA DRILLING). CLEAN ALL SURFACES AND INSTALL WITH OXIDE INHIBITING COMPOUND BURNDY PENETROX-E OR EQUAL. APPLY COMPOUND BETWEEN BUS BAR AND LUG PAD AND BETWEEN CONDUCTOR AND LUG BARREL. INSTALL COMPRESSION CONNECTORS WITH A FULLY CIRCUMFERENTIAL COMPRESSION DIE BURNDY HYPRESS OR EQUAL.

52. LABEL ALL CONDUIT WHERE IT BEGINS, AND WHERE IT TERMINATES INTO A BOX, PANEL, DEVICE, LOAD, OR DISCONNECT. CONDUIT SHALL BE LABELED EVERY 30 FEET OR LESS. CONDUIT SHALL BE LABELED WHERE IT PENETRATES ANY WALL OR FLOOR. LABEL SHALL BE PERMANENT PRINTED LABELS (DESCRIBING SOURCE, CIRCUIT, AND LOAD) LEGIBLE FROM FLOOR WHERE POSSIBLE (STANDING POSITION).

53. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT OR INSTALLATION METHODS.

54. PROVIDE ARC-FLASH HAZARD WARNING LABELS ON ALL AFFECTED ELECTRICAL EQUIPMENT, INCLUDING SWITCHBOARDS, PANEL BOARDS, INDUSTRIAL CONTROL PANELS, METER SOCKET ENCLOSURES, AND MOTOR CONTROL CENTERS. MARKING SHALL BE LOCATED SO AS TO BE CLEARLY VISIBLE TO QUALIFIED PERSONS. LABEL SHALL BE FACTORY PRE-PRINTED OR MACHINE-PRINTED SELF-ADHESIVE VINYL MATERIAL; UV, CHEMICAL, WATER, HEAT AND ABRASION RESISTANT; PRODUCED USING MATERIALS RECOGNIZED BY UL 969. MINIMUM SIZE: 3.5 BY 5 INCHES.

55. UNLESS OTHERWISE NOTED, ARRANGE, PAY FOR, COORDINATE AND PROVIDE ALL PERMITS NECESSARY FOR A COMPLETE AND OPERABLE SYSTEM.

56. ALL WORK IS <N> UNLESS OTHERWISE NOTED.

57. ELECTRICAL CONDUCTORS SERVING EQUIPMENT SUPPLIED BY POWER CONVERSION EQUIPMENT AS PART OF A VARIABLE FREQUENCY DRIVE (VFD) SYSTEM AND/OR A SERVO DRIVE SYSTEM SHALL HAVE THERMOSET INSULATION TYPE XHHW, OR XHHW-2

2026 APPLICABLE CODES

UNLESS OTHERWISE INDICATED OR SPECIFIED, PERFORM THE WORK IN CONFORMANCE WITH THE LATEST EDITIONS OF ALL APPLICABLE REGULATORY REQUIREMENTS, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:

1. CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE (PART 1, TITLE 24): 2025
2. CALIFORNIA BUILDING CODE (PART 2, TITLE 24): 2024 IBC WITH 2025 CA AMENDMENTS
3. CALIFORNIA ELECTRICAL CODE (PART 3, TITLE 24): 2023 NEC WITH 2025 CA AMENDMENTS
4. CALIFORNIA MECHANICAL CODE (PART 4, TITLE 24): 2024 UMC WITH 2025 CA AMENDMENTS
5. CALIFORNIA PLUMBING CODE (PART 5, TITLE 24) 2024 UPC WITH 2025 CA AMENDMENTS
6. CALIFORNIA ENERGY CODE (PART 6, TITLE 24): 2025
7. CALIFORNIA HISTORICAL BUILDING CODE, (PART 8, TITLE 24): 2025
8. CALIFORNIA FIRE CODE (PART 9, TITLE 24): 2024 IFC WITH 2025 CA AMENDMENTS
9. CALIFORNIA EXISTING BUILDING CODE (PART 10, TITLE 24): 2025 (2024 INTERNATIONAL EXISTING BUILDING CODE WITH 2022 CA AMENDMENTS)
10. CALIFORNIA GREEN BUILDING STANDARDS CODE OR CAL GREEN (PART 11, TITLE 24): 2025
11. CALIFORNIA REFERENCED STANDARDS CODE (PART 12, TITLE 24): 2025
12. PUBLIC SAFETY (CCR TITLE 19), STATE FIRE MARSHAL: CURRENT REVISION
13. NFPA 72, NATIONAL FIRE ALARM AND SIGNALING CODE, 2022 EDITION

DEMOLITION NOTES

1. REMOVE EXISTING EQUIPMENT IN CONFLICT WITH NEW CONDITIONS. REMOVE ALL WIRE NOT IN SERVICE AND FROM ABANDONED RACEWAYS. PROTECT EXISTING CIRCUITING PASSING THROUGH DEMOLITION AREAS. EXTEND AND/OR RELOCATE AS NECESSARY.
2. ALL ABANDONED EQUIPMENT INCLUDING LIGHT, RECEPTACLES, DATA, FIRE ALARM, ETC., SHALL BE COVERED WITH BLANK METAL PLATES AND PAINTED TO MATCH THE ADJACENT FINISH OF SURROUNDING WALLS OR CEILING TO THE SATISFACTION OF THE ARCHITECT/OWNER.
3. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO DISCONNECT AND REMOVE ALL EXISTING ELECTRICAL EQUIPMENT AFFECTED BY THE PROJECT. THIS INCLUDES REROUTING OR THE EXTENSION OF EXISTING CONDUIT AND FEEDER WHERE NECESSARY TO MAINTAIN OPERATIONAL OF ANY EXISTING EQUIPMENT.
4. CIRCUIT NUMBERS AND CONDUIT HOMERUNS SHOWN ON THESE DRAWINGS WERE TAKEN FROM EXISTING RECORD DRAWINGS. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO VERIFY EXISTING CIRCUITING AND CONDUIT HOMERUNS. ADJUST CIRCUIT NUMBERS ACCORDING TO THE ACTUAL CONDITIONS.
5. WHERE EXISTING CONDUIT IS TO BE ABANDONED OR DEMOLISHED, THE CONDUIT SHALL BE REMOVED IF IT IS EXPOSED, IN A CRAWL SPACE OR IN AN ACCESSIBLE CEILING. ABANDONED OR DEMOLISHED CONDUIT FEEDS UP THROUGH THE FLOOR SHALL BE CUT OFF AND PLUGGED FLUSH WITH THE FLOOR.
6. ALL ELECTRICAL EQUIPMENT INCLUDING LIGHT, RECEPTACLE, DATA, FIRE ALARM, ETC., THAT ARE TO BE REMOVED, SHALL BE REMOVED COMPLETELY, INCLUDING CONDUIT AND WIRING BACK TO THE LAST DEVICE REMAINING IN SERVICE, OR SOURCE.
7. EXISTING CIRCUITS WHICH ARE REMOVED AND NOT REUSED SHALL BE IDENTIFIED ON THE PANEL SCHEDULE AS "SPARE".
8. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE OWNER PRIOR TO REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND TURN OVER REMOVED EQUIPMENT THAT THE OWNER REQUESTS IN AN "AS-FOUND" CONDITION.
9. ALL DEMOLITION WORK SHOWN, IF ANY, WAS PREPARED FOR THE CONVENIENCE OF THE CONTRACTOR. NO REPRESENTATION HAS BEEN MADE THAT ALL ITEMS THAT MAY REQUIRE DEMOLITION HAVE BEEN SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY EXAMINE THE SITE AND THE CONTRACT DOCUMENTS AND TO PERFORM ALL DEMOLITION AND RECONSTRUCTION WHICH MAY BE REQUIRED FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
10. WHEN CALLED FOR, OR SCOPE OF WORK REQUIRES ELECTRICAL EQUIPMENT TO BE REMOVED, ALL CONDUIT, WIRE, BOXES, HANGERS, ETC. SHALL BE REMOVED COMPLETELY. ALL OPENINGS SHALL BE PATCHED, SEALED AND PAINTED TO MATCH THE ADJACENT FINISH.

DRAWING INDEX

SHEET NO.	DESCRIPTION
E001	ELECTRICAL NOTES, SYMBOLS & ABBREVIATIONS
E002	ELECTRICAL SPECIFICATIONS
E003	ELECTRICAL TITLE 24
E101	ELECTRICAL FLOOR PLAN - DEMO
E102	ELECTRICAL FLOOR PLAN - NEW
E103	LIGHTING FLOOR PLAN - DEMO
E104	LIGHTING FLOOR PLAN - NEW
E105	PHOTOMETRIC CALCULATIONS
E501	ELECTRICAL DETAILS
E701	SINGLE LINE DIAGRAM AND PANEL SCHEDULES

AGENCY APPROVAL

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MBI

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

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DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER · STATE OF CALIFORNIA

TITLE

ELECTRICAL LEGEND AND GENERAL NOTES

SHEET #

E001

PHOTOGRAPHIC CONSTRUCTION RECORDS

THE CONTRACTOR SHALL PROVIDE PRECONSTRUCTION DIGITAL PHOTOGRAPHS AND VIDEO RECORDINGS PRIOR TO COMMENCEMENT OF WORK ON THE SITE. BEFORE CONSTRUCTION MAY START, CONTRACTOR SHALL DOCUMENT ANY EXISTING CONDITIONS THAT ARE NOT COVERED BY THE CONTRACT DOCUMENTS (DAMAGED CONCRETE, WALLS, LANDSCAPE, ETC.). FAILURE TO DOCUMENT EXISTING DAMAGE WILL RESULT IN CONTRACTOR REPAIRS TO SURFACE TO MATCH ADJACENT AFTER CONSTRUCTION ACTIVITIES. ADDITIONAL PRECONSTRUCTION PHOTOGRAPHS/VIDEOS SHALL BE TAKEN AT LOCATIONS TO BE DESIGNATED BY THE OWNER'S REPRESENTATIVE.

CONTRACTOR SHALL MAKE A VIDEO RECORDING OF ALL PROPOSED ROUTINGS FOR INFRASTRUCTURE WORK, NOTING CONDITIONS OF EXISTING SURFACES AND ADJACENT IMPROVEMENTS. ONE COPY OF COMPLETE VIDEO SHALL BE TRANSMITTED TO THE OWNER'S REPRESENTATIVE.

CONSTRUCTION PHOTOGRAPHS

THE CONTRACTOR SHALL PROVIDE CONSTRUCTION PHOTOGRAPHS SHOWING THE PROGRESS OF THE WORK AND AS MAY BE DIRECTED BY THE OWNER'S REPRESENTATIVE. PHOTOGRAPHS/VIDEOS SHALL BE FORMATTED, IDENTIFIED, AND DELIVERED AS DESCRIBED ABOVE FOR DIGITAL PHOTOS AND VIDEOS. STARTING ONE MONTH AFTER THE DATE OF THE PRECONSTRUCTION PHOTOGRAPHS AND CONTINUING AS LONG AS THE WORK IS IN PROGRESS, APPROXIMATELY 40 MONTHLY PHOTOGRAPHS SHALL BE TAKEN, CATALOGED AND CROSS REFERENCED TO DRAWINGS/PLANS.

ANY WORK TO BE CONCEALED (BURIED, BEHIND WALLS, ABOVE CEILING, BELOW SLAB, ETC.) SHALL BE PHOTO DOCUMENTED AFTER ANY TESTING AND INSPECTION AND PRIOR TO CONCEALING TO CLEARLY INDICATE THE WORK. DOCUMENT ON PLANS THE LOCATION AND ORIENTATION FOR EACH PHOTO DOCUMENTING CONCEALED WORK.

FOR FINAL COMPLETION, DOCUMENT ALL PUNCH LIST ITEM COMPLETION BY PHOTOGRAPH OR VIDEO.

DELIVER CONSTRUCTION PHOTOGRAPHS AND VIDEOS WITHIN 10 DAYS OF CREATION. ALL PHOTOS AND VIDEOS SHALL BE OF SUFFICIENT QUALITY TO CLEARLY DEPICT WORK.

APPLICABLE CODES

APPLICABLE CODE: 2025 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2025 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.
2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.
3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT
B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

APPLICABLE CODE: 2025 CBC PER IR 16-13.

MEP DISTRIBUTION SYSTEM BRACING NOTE FOR PIPING, DUCTWORK, AND ELECTRICAL CONDUIT

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7 SECTION 13.3 AS DEFINED IN ASCE 7 SECTIONS 13.6.5, 13.6.6, 13.6.7, AND 13.6.8; AND 2022 CBC SECTIONS 1617A.1.24, 1617A.1.25, AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEMS ARE AS NOTED BELOW, THE MEP DESIGN PROFESSIONAL ENGINEER RESPONSIBLE FOR CONTENT ON THESE SHEETS HAS VERIFIED THAT THE DESIGN METHODS IDENTIFIED BELOW ARE IN ACCORDANCE WITH DSA IR 16-13.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP MD PP E OPTION 1: PROJECT-SPECIFIC DESIGN.

MP MD PP E OPTION 2: DESIGN BASED ON OSHPD OPM, WITHIN PROJECT SUBMITTAL.

MP MD PP E OPTION 3: DESIGN BASED ON OSHPD OPM, DEFERRED SUBMITTAL.

ADMINISTRATIVE REQUIREMENTS

1. A COPY OF PARTS 1 THRU 6, TITLE 24, C.C.R. SHALL BE KEPT ON THE JOB SITE AT ALL TIMES.
2. ALL CONSTRUCTION CHANGE DOCUMENTS AND ADDENDA TO BE SIGNED BY THE ARCHITECT AND THE OWNER AND APPROVED BY DSA. CONSTRUCTION CHANGE DOCUMENTS ARE NOT VALID UNTIL APPROVED BY DSA PER SECTION 4-338, PART 1, TITLE 24.
3. ALL TESTS TO CONFORM TO THE REQUIREMENTS OF SECTION 4-335, PART 1, TITLE 24, AND APPROVED T & I SHEET.
4. TESTS OF MATERIAL SAND TESTING LABORATORY SHALL BE IN ACCORDANCE WITH SECTION 4-335 OF PART 1, TITLE 24, AND THE DISTRICT SHALL EMPLOY AND PAY THE LABORATORY. COSTS OF RE-TEST MAY BE BACK CHARGED TO THE CONTRACTOR.
5. DSA SHALL BE NOTIFIED AT THE START OF CONSTRUCTION AND PRIOR TO THE PLACEMENT OF CONCRETE PER SECTION 4-331, PART 1, TITLE 24.
6. INSPECTOR SHALL BE APPROVED BY DSA. INSPECTION SHALL BE IN ACCORDANICE WITH SECTION 4-333(B). THE DUTY OF THE INSPECTOR SHALL BE IN ACCORDANCE WITH SECTION 4-342, PART 1, TITLE 24.
7. SUPERVISION OF CONSTRUCTION BY DSA SHAL BE IN ACCORDANCE WITH SECTION 4-334, PART 1, TITLE 24.
8. CONTRACTOR, INSPECTOR, ARCHITECT AND ENGINEERS SHALL SUBMIT VERIFIED REPORTS (FORM SSS-6) IN ACCORDANCE WITH SECTION 4-336 AND 4-343, PART 1, TITLE 24.
9. THE ARCHITECT AND THE STRUCTURAL ENGINEER SHALL PERFORM THEIR DUTIES IN ACCORDANCE WITH SECTION 4-333(A) AND 4-341, PART 1, TITLE 24.
10. THE CONTRACTOR SHALL PERFORM HIS DUTIES IN ACCORDANCE WITH SECTION 4-343, PART 1, TITLE 24.

ELECTRICAL SPECIFICATIONS

GENERAL PROVISIONS:

1. FURNISH ALL LABOR, MATERIALS, APPARATUS, TOOLS, EQUIPMENT, TRANSPORTATION, TEMPORARY CONSTRUCTION AND SPECIAL OR OCCASIONAL SERVICES AS REQUIRED TO MAKE A COMPLETE WORKING ELECTRICAL INSTALLATION, AS SHOWN ON THE DRAWINGS OR DESCRIBED IN THESE SPECIFICATIONS.
2. STRUCTURAL MEMBERS SHALL IN NO CASE BE DRILLED, BORED OR NOTCHED IN SUCH A MANNER THAT WILL IMPAIR THEIR STRUCTURAL VALUE. CUTTING OF HOLES, IF REQUIRED, SHALL BE DONE WITH CORE DRILL AND ONLY WITH THE APPROVAL OF THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RETURNING ANY SURFACE FROM WHICH HE HAS REMOVED EQUIPMENT OR DEVICES TO THE CONDITION AND FINISH OF THE ADJACENT SURFACES.
3. KEEP CONDUITS, JUNCTION BOXES, AND OUTLET BOXES, AND OTHER OPENINGS CLOSED TO PREVENT ENTRY OF FOREIGN MATTER: COVER FIXTURES, EQUIPMENT, AND APPARATUS AND PROTECT AGAINST DIRT, PAINT, WATER, CHEMICAL, OR MECHANICAL DAMAGE, BEFORE AND DURING CONSTRUCTION PERIOD. RESTORE TO ORIGINAL CONDITION ANY FIXTURE, APPARATUS, OR EQUIPMENT DAMAGED PRIOR TO FINAL ACCEPTANCE. INCLUDING RESTORATION OF DAMAGED SHOP COATS OF PAINT, BEFORE FINAL ACCEPTANCE. PROTECT BRIGHT FINISHED SURFACES AND SIMILAR ITEMS UNTIL IN SERVICE. NO RUST OR DAMAGE WILL BE PERMITTED.
4. DRAWINGS FOR THE WORK UNDER THIS SECTION ARE DIAGRAMMATIC. THE CONTRACTOR SHALL VISIT THE SITE AND DETERMINE THE LOCALE, WORKING CONDITIONS, CONFLICTING UTILITIES, AND THE CONDITIONS IN WHICH THE ELECTRICAL WORK WILL TAKE PLACE.
5. CONTRACTOR SHALL INSURE RECONNECTION OF EXISTING EQUIPMENT AND CIRCUITS AFFECTED BY CONTRACT DEMOLITION WHETHER OR NOT RECONNECTION IS SPECIFICALLY SHOWN ON THE CONTRACT DOCUMENTS.
6. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND TECHNICAL DATA PARTICULAR TO THE PRODUCT SPECIFIED AND/OR ACCEPTED EQUAL EXCEPT AS OTHERWISE SPECIFIED AND IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CONTRACTOR'S ASSOCIATION "STANDARD OF INSTALLATION" FOR GENERAL INSTALLATION PRACTICE.

BASIC MATERIALS AND METHODS:

1. RIGID STEEL CONDUIT SHALL BE FULL WEIGHT, PIPE SIZE, FINISHED INSIDE AND OUT BY HOT-DIP GALVANIZING AFTER FABRICATION, AND SHALL CONFORM WITH ANSI C80.1 AND UL.
   a. USE RIGID STEEL CONDUIT FOR THE FOLLOWING LOCATIONS OR CONDITIONS: ALL EXTERIOR APPLICATIONS, ALL CONDUITS LARGER THAN 2" TRADE DIAMETER, AND ALL CONDUITS INDOOR BELOW EIGHT (8) FEET ABOVE FINISHED FLOOR.
   b. COUPLINGS SHALL BE ELECTROPLATED STEEL. INSULATING BUSHINGS: THREADED POLYPROPYLENE OR THERMO-SETTING PHENOLIC RATED 150°C MINIMUM. INSULATED GROUNDING BUSHINGS: THREADED CAST MALLEABLE IRON BODY WITH INSULATED THROAT AND STEEL "LAY-IN" GROUND LUG WITH COMPRESSION SCREW. INSULATED METALLIC BUSHINGS: THREADED CAST MALLEABLE IRON BODY WITH PLASTIC INSULATED THROAT RATED 150°C. RUNNING THREADS ARE NOT ACCEPTABLE.
2. ELECTRICAL METALLIC TUBING (EMT) SHALL BE FORMED OF COLD ROLLED STRIP STEEL, AND SHALL COMPLY WITH ANSI C80.3 AND UL REQUIREMENTS.
   a. EMT IS ALLOWED FOR THE FOLLOWING CONDITIONS: INTERIOR ONLY AND ABOVE EIGHT (8) FEET FROM FINISHED FLOOR AND INTERIOR ONLY AND WHEN ENTERING A PANEL FROM ABOVE.
   b. COUPLINGS: ELECTROPLATED STEEL, UL LISTED RAIN AND CONCRETE TIGHT THROUGH 1-1/4" TRADE SIZE. ALL EMT FITTINGS SHALL BE COMPRESSION TYPE. CONNECTORS: STEEL, GLAND COMPRESSION TYPE WITH INSULATED PLASTIC THROAT, 150°C TEMPERATURE RATED. ALL EMT FITTINGS SHALL BE COMPRESSION TYPE.
3. LIQUID TIGHT FLEXIBLE METAL CONDUIT SHALL BE FABRICATED IN CONTINUOUS LENGTHS FROM GALVANIZED STEEL STRIP, SPIRALLY WOUND. FLEXIBLE CONDUIT, EXCEPT WHERE INSTALLED IN CONCEALED DRY LOCATIONS, SHALL BE LIQUID TIGHT WITH PLASTIC JACKET EXTRUDED OVER THE OUTER ZINC COATING. NO ALUMINUM SUBSTITUTE WILL BE ACCEPTED.
   a. USE LIQUIDTIGHT FOR THE FOLLOWING CONDITIONS: IN DAMP AND WET LOCATIONS FOR CONNECTIONS TO MOTORS, TRANSFORMERS, VIBRATING EQUIPMENT AND MACHINERY AND FOR CONNECTIONS TO ALL PUMP MOTORS, FLOW SWITCHES, AND SIMILAR DEVICES.
   b. CONNECTORS SHALL BE THE SCREW CLAMP ON SCREW-IN (JAKE) VARIETY WITH CAST MALLEABLE IRON BODIES AND THREADED MALE HUBS WITH INSULATED THROAT OR INSULATED BUSHINGS. SET SCREW TYPE CONNECTORS ARE NOT ACCEPTABLE. LIQUID TIGHT FITTINGS SHALL BE OF CADMIUM PLATED CAST MALLEABLE IRON, WITH INSULATED THROAT.
4. LOW VOLTAGE WIRING SHALL BE INSTALLED IN CONDUIT, MINIMUM 3/4" TRADE DIAMETER.
5. CONDUITS SHALL BE TIGHTLY COVERED AND WELL PROTECTED DURING CONSTRUCTION USING METALLIC BUSHINGS AND BUSHING "PENNIES" TO SEAL OPEN ENDS. IN MAKING JOINTS IN RIGID STEEL CONDUIT, REAM CONDUIT SMOOTH AFTER CUTTING AND THREADING. CLEAN ANY CONDUIT IN WHICH MOISTURE OR ANY FOREIGN MATTER HAS COLLECTED BEFORE PULLING IN CONDUCTORS. PAINT ALL FIELD THREADED JOINTS TO PREVENT CORROSION.
6. CONDUIT SYSTEMS SHALL BE ELECTRICALLY CONTINUOUS THROUGHOUT. INSTALL CODE SIZE, UNINSULATED, COPPER GROUNDING CONDUCTORS IN ALL CONDUIT RUNS, GROUNDING CONDUCTOR SHALL BE BONDED TO CONDUIT, EQUIPMENT FRAMES AND PROPERLY GROUNDED.
7. LOW VOLTAGE CONDUIT SHALL BE GROUPED SEPARATELY AND LABELED EVERY 10 FT INTERVAL AS TO SYSTEM (I.E. FIRE, CONTROL, ETC)
8. EXPOSED CONDUIT SHALL BE RUN PARALLEL OR AT RIGHT ANGLES TO THE CENTERLINES OF THE COLUMNS AND BEAMS. CONDUITS SHALL NOT BE PLACED CLOSER THAN 12 INCHES FROM A PARALLEL HOT WATER OR STEAM LINE OR THREE INCHES FROM SUCH LINES CROSSING PERPENDICULAR TO THE RUNS. IN LONG RUNS OF CONDUIT, PROVIDE SUFFICIENT PULL BOXES PER NEC INSIDE BUILDINGS TO FACILITATE PULLING WIRES AND CABLES. SUPPORT PULL BOXES FROM STRUCTURE INDEPENDENT OF CONDUIT SUPPORTS. THESE PULL BOXES ARE NOT SHOWN ON THE PLANS.
9. ALL RACEWAY SYSTEMS SHALL BE SECURED TO BUILDING STRUCTURES USING SPECIFIED FASTENERS, CLAMPS AND HANGERS SPACED ACCORDING TO CODE. SUPPORT SINGLE RUNS OF CONDUIT USING TWO HOLE PIPE STRAPS. WHERE RUN HORIZONTALLY ON WALLS IN DAMP OR WET LOCATIONS, INSTALL "CLAMP BLOCKS" TO SPACE CONDUIT OFF THE SURFACE. MULTIPLE CONDUIT RUNS SHALL BE SUPPORTED USING "TRAPEZE" HANGERS FABRICATED FROM 3/8 INCH DIAMETER, THREADED STEEL RODS SECURED TO BUILDING STRUCTURES. FASTEN CONDUIT TO CONSTRUCTION CHANNEL WITH STANDARD TWO HOLE PIPE CLAMPS. PROVIDE LATERAL SEISMIC BRACING FOR HANGERS.
10. LOCATE AND INSTALL ANCHORS, FASTENERS, AND SUPPORTS IN ACCORDANCE WITH NECA "STANDARD OF INSTALLATION". DO NOT FASTEN SUPPORTS TO PIPES, DUCTS, MECHANICAL EQUIPMENT, OR CONDUIT. DO NOT DRILL OR CUT STRUCTURAL MEMBERS. RIGIDLY WELD SUPPORT MEMBERS OR USE HEXAGON-HEAD BOLTS TO PRESENT NEAT APPEARANCE WITH ADEQUATE STRENGTH AND RIGIDITY. USE SPRING LOCK WASHERS UNDER ALL NUTS.
11. RACEWAYS SHALL BE JOINED USING SPECIFIED COUPLINGS OR TRANSITION COUPLINGS WHERE DISSIMILAR RACEWAY SYSTEMS ARE JOINED. RIGID CONDUIT CONNECTION TO ENCLOSURES SHALL BE MADE BY MYERS TYPE GROUNDING HUBS ONLY. EMT CONNECTIONS TO ENCLOSURES SHALL BE MADE WITH COMPRESSION CONNECTOR WITH GROUNDING LOCK-NUTS OR BUSHINGS. INSTALL CABLE SEALING BUSHINGS OR CAULK CONDUIT TERMINATIONS IN ALL GRADE LEVEL OR BELOW GRADE EXTERIOR PULL, JUNCTION OR OUTLET BOXES.
12. FURNISH AND INSTALL METAL SLEEVES FOR ALL EXPOSED INTERIOR CONDUIT RUNS PASSING THROUGH CONCRETE FLOORS OR WALLS. FOLLOWING CONDUIT INSTALLATION, SEAL ALL PENETRATIONS USING NON-IRON BEARING, CHLORIDE FREE, NON-SHRINKING, DRY-PACK, GROUTING COMPOUND.
13. CONDUITS PENETRATING RATED WALLS, FLOORS, ETC. SHALL BE FIREPROOFED.
14. FOR EXISTING CONDUITS THAT WILL BE REUSED, PULL OUT EXISTING CONDUCTORS AND COMPLETELY AND THOROUGHLY SWAB RACEWAY BEFORE INSTALLING WIRE. USE 50/50 SOLUTION OF SIMPLE GREEN. USE CO2 TO BLOW WATER AND SOAP INTO CONDUIT - LET SOAK TO BREAK UP DRIED OUT PULLING COMPOUNDS, THEN PULL CONDUCTORS. PULL ONE CONDUCTOR AT A TIME IF WILL NOT PULL ALL OUT TOGETHER.
15. CONDUCTORS SHALL BE MANUFACTURED BY SOUTHWIRE. ALL WIRE AND CABLE SHALL BE INSULATED, STRANDED COPPER CONDUCTORS, SOFT DRAWN ANNEALED COPPER WIRE 98% CONDUCTIVITY, BEARING THE UL LABEL.
16. WIRE AND CABLE, 0 TO 600 VOLT SHALL BE NEC TYPE THWN, OR TYPE XHHW FOR FEEDERS AND BRANCH CIRCUITS IN WET OR DRY LOCATIONS. NEC TYPE THHN FOR BRANCH CIRCUITS IN DRY LOCATIONS. MINIMUM CONDUCTOR SIZE: AWG NO. 10 FOR ALL POWER AND LIGHTING BRANCH CIRCUITS. AWG NO. 14 FOR ALL SIGNAL AND CONTROL CIRCUITS.
17. COLOR CODING: SYSTEM CONDUCTORS SHALL BE IDENTIFIED AS TO VOLTAGE AND PHASE CONNECTIONS BY MEANS OF COLOR IMPREGNATED INSULATION OR APPROVED COLORED MARKING TAPE AS FOLLOWS:

   a. 120/240 VOLT, SINGLE PHASE, 3 WIRE SYSTEM. PHASE A - BLACK, PHASE B - RED, PHASE C - ORANGE FOR HIGH LEG (208V TO NEUTRAL), NEUTRAL WHITE, GROUND - GREEN.

   b. 120/208 VOLT, 3 PHASE, 4 WIRE SYSTEMS. PHASE A - BLACK, PHASE B - RED, PHASE C - BLUE, NEUTRAL - WHITE, GROUND - GREEN

   c. 277/480 VOLT, 3 PHASE, 4 WIRE SYSTEM. PHASE A - BROWN, PHASE B - ORANGE, PHASE C - YELLOW, NEUTRAL - GREY, GROUND - GREEN
18. U.L. APPROVED NON-PETROLEUM BASE AND INSULATING TYPE PULLING COMPOUND SHALL BE USED AS NEEDED. ALL CABLES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS AND WARRANTY. BLOCK AND TACKLE, POWER DRIVEN WINCH OR OTHER MECHANICAL MEANS SHALL NOT BE USED IN PULLING CONDUCTORS OF SIZE SMALLER THAN AWG # 1.
19. SPLICING AND TERMINATING SHALL BE IN ACCORDANCE WITH CABLE MANUFACTURER'S PUBLISHED PROCEDURES. MAKE UP ALL SPLICES IN OUTLET BOXES WITH CONNECTORS AS SPECIFIED HEREIN WITH SEPARATE TAILS OF CORRECT COLOR TO BE MADE UP TO SPLICE. PROVIDE AT LEAST SIX (6) INCHES OF TAILS PACKED IN BOX AFTER SPLICE IS MADE UP. ALL WIRE AND CABLE IN PANELS, CONTROL CENTERS AND EQUIPMENT ENCLOSURES SHALL BE BUNDLED AND CLAMPED. ENCAPSULATE SPLICES IN EXTERIOR OUTLET, JUNCTION AND PULL BOXES USING INSULATING RESIN KITS. ALL SPLICES FOR EXTERIOR EQUIPMENT IN PUMP ROOMS SHALL BE MADE UP WATERTIGHT.
20. ROUTE WIRE AND CABLE AS REQUIRED TO MEET PROJECT CONDITIONS. WIRE AND CABLE ROUTING INDICATED IS APPROXIMATE UNLESS DIMENSIONED. WHERE WIRE AND CABLE DESTINATION IS INDICATED AND ROUTING IS NOT SHOWN, DETERMINE EXACT ROUTING AND LENGTHS REQUIRED. INCLUDE WIRE AND CABLE OF LENGTHS REQUIRED TO INSTALL CONNECTED DEVICES WITHIN 10 FT OF LOCATION SHOWN.
21. PROTECT EXPOSED CABLE FROM DAMAGE. SUPPORT CABLES ABOVE ACCESSIBLE CEILING, USING SPRING METAL CLIPS OR METAL CABLE TIES TO SUPPORT CABLES FROM STRUCTURE OR CEILING SUSPENSION SYSTEM. DO NOT REST CABLE ON CEILING PANELS. USE SUITABLE CABLE FITTINGS AND CONNECTORS. CLEAN CONDUCTOR SURFACES BEFORE INSTALLING LUGS AND CONNECTORS. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITH NO PERCEPTIBLE TEMPERATURE RISE. USE SUITABLE REDUCING CONNECTORS OR MECHANICAL CONNECTOR ADAPTORS FOR CONNECTING ALUMINUM CONDUCTORS TO COPPER CONDUCTORS. USE SPLIT BOLT CONNECTORS FOR COPPER CONDUCTOR SPLICES AND TAPS, 6 AWG AND LARGER. TAPE UNINSULATED CONDUCTORS AND CONNECTOR WITH ELECTRICAL TAPE TO 150 PERCENT OF INSULATION RATING OF CONDUCTOR. USE SOLDERLESS PRESSURE CONNECTORS WITH INSULATING COVERS FOR COPPER CONDUCTOR SPLICES AND TAPS, 8 AWG AND SMALLER. USE INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR COPPER CONDUCTOR SPLICES AND TAPS, 10 AWG AND SMALLER.STING OF MOTORS FOR CORRECT OPERATION AND ROTATION. ANY PRODUCTS WHICH FAIL DURING THE TESTS OR ARE RULED UNSATISFACTORY BY THE ENGINEER SHALL BE REPLACED, REPAIRED, OR CORRECTED AS PRESCRIBED BY THE ENGINEER AT THE EXPENSE OF THE CONTRACTOR. TESTS SHALL BE PERFORMED AFTER REPAIRS, REPLACEMENTS, OR CORRECTIONS UNTIL SATISFACTORY PERFORMANCE IS DEMONSTRATED.
22. MAKE ELECTRICAL CONNECTIONS IN ACCORDANCE WITH EQUIPMENT MANUFACTURER'S INSTRUCTIONS. FOR CONDUIT CONNECTIONS TO EQUIPMENT USE FLEXIBLE CONDUIT. USE LIQUIDTIGHT FLEXIBLE CONDUIT WITH WATERTIGHT CONNECTORS IN DAMP OR WET LOCATIONS. CONNECT HEAT PRODUCING EQUIPMENT USING WIRE AND CABLE WITH INSULATION SUITABLE FOR TEMPERATURES ENCOUNTERED.
23. INSTALL SUITABLE STRAIN-RELIEF CLAMPS AND FITTINGS FOR CORD CONNECTIONS AT OUTLET BOXES AND EQUIPMENT CONNECTION BOXES. INSTALL DISCONNECT SWITCHES, CONTROLLERS, CONTROL STATIONS, AND CONTROL DEVICES TO COMPLETE EQUIPMENT WIRING REQUIREMENTS. INSTALL TERMINAL BLOCK JUMPERS TO COMPLETE EQUIPMENT WIRING REQUIREMENTS. INSTALL INTERCONNECTING CONDUIT AND WIRING BETWEEN DEVICES AND EQUIPMENT TO COMPLETE EQUIPMENT WIRING REQUIREMENTS.
24. INSTALL JUNCTION OR PULLBOXES WHERE REQUIRED TO LIMIT BENDS IN CONDUIT RUNS TO NOT MORE THAN 360 DEGREES OR WHERE PULLING TENSION ACHIEVED WOULD EXCEED THE MAXIMUM ALLOWABLE FOR THE CABLE TO BE INSTALLED. CONSULT WIRE AND CABLE MANUFACTURER.
25. SECURELY FASTEN DEVICES INTO BOXES AND ATTACH APPROPRIATE COVER PLATES. CAULK AROUND EDGES OR OUTDOOR DEVICE PLATES AND BOXES WHEN ROUGH WALL SURFACES PREVENT RAINTIGHT SEAL. USE CAULKING MATERIALS APPROVED BY ENGINEER. FIREPROOF AROUND OPENING OF DEVICES LOCATED OR PENETRATING FIRERATED CONSTRUCTION ASSEMBLIES. FIREPROOF AROUND OPENING OF DEVICES LOCATED OR PENETRATING FIRERATED CONSTRUCTION ASSEMBLIES.
26. FURNISH AND INSTALL ENGRAVED LEGEND OF EACH SWITCH THAT CONTROLS EXHAUST FANS, MOTORS, EQUIPMENT SYSTEMS, ETC. NOT LOCATED WITHIN SIGHT OF THE CONTROLLING SWITCH.
27. MOUNT RECEPTACLES VERTICALLY WITH U-SHAPED GROUND POSITION, GROUND PIN SHALL BE FACING DOWN. DO NOT COMBINE GFCI PROTECTED CIRCUITS WITH OTHER CIRCUITS IN THE SAME RACEWAY. LIMIT NUMBER OF GFI PROTECT CIRCUITS IN ANY ONE RACEWAY TO A MAXIMUM OF ONE (1) CIRCUIT.
28. FUSES SHALL BE INSTALLED AND SIZED AS NOTED ON PLANS AND AS REQUIRED PER MANUFACTURER. BE SURE TO OBSERVE MAXIMUM BRANCH CIRCUIT FUSE SIZE LABELS.
29. GROUND NON-CURRENT CARRYING METAL PARTS OF ELECTRICAL EQUIPMENT ENCLOSURES, FRAMES, CONDUCTOR RACEWAYS OR CABLE TRAYS TO PROVIDE A LOW IMPEDANCE PATH FOR LINE-TO-GROUND FAULT CURRENT AND TO BOND ALL NON-CURRENT CARRYING METAL PARTS TOGETHER. INSTALL A GROUND CONDUCTOR IN EACH RACEWAY SYSTEM IN ADDITION TO CONDUCTORS SHOWN. EQUIPMENT GROUND CONDUCTOR SHALL BE ELECTRICALLY AND MECHANICALLY CONTINUOUS FROM THE ELECTRICAL CIRCUIT SOURCE TO THE EQUIPMENT TO BE GROUNDED. SIZE GROUND CONDUCTORS PER NEC 250 UNLESS LARGER CONDUCTORS ARE SHOWN ON THE DRAWINGS. MOTORS SHALL BE CONNECTED TO EQUIPMENT GROUND CONDUCTORS WITH A CONDUIT GROUNDING BUSHING AND WITH A BOLTED SOLDERLESS LUG CONNECTION ON THE METAL FRAME.
30. GROUNDING CONDUCTORS SHALL BE IDENTIFIED WITH GREEN INSULATION, EXCEPT WHERE A BARE GROUND CONDUCTOR IS SPECIFIED. MEASURE GROUND RESISTANCE, SHALL BE 5 OHMS OR LESS.
31. INSTALL RACEWAY COUPLINGS, FITTINGS AND TERMINATIONS SECURE AND TIGHT TO INSURE GOOD GROUND CONTINUITY. PROVIDE INSULATED GROUNDING BUSHING AND BONDING JUMPER WHERE METAL RACEWAY IS NOT DIRECTLY ATTACHED TO EQUIPMENT METAL ENCLOSURE AND AT CONCENTRIC KNOCK-OUTS.
32. CONDUIT TERMINATING IN CONCENTRIC KNOCKOUTS AT PANELBOARDS, CABINETS AND GUTTERS SHALL HAVE INSULATED GROUNDING BUSHINGS AND BONDING JUMPERS INSTALLED INTERCONNECTING ALL SUCH CONDUITS AND THE PANELBOARD CABINET, GUTTER, ETC.
33. PANELBOARDS SHALL HAVE COPPER BUSSING, COPPER GROUND BAR AND DOOR-IN-DOOR TRIM.

TESTING:

1. AT COMPLETION OF JOB, CHECK VOLTAGE AT SEVERAL POINTS OF UTILIZATION ON THE SYSTEM WHICH HAS BEEN INSTALLED UNDER THIS CONTRACT. DURING TEST, ENERGIZE ALL LOADS INSTALLED. MEASURE 3-PHASE VOLTAGES AND NOTE PERCENTAGE DIFFERENCES.
2. CONTRACTOR SHALL PERFORM TESTS AS SPECIFIED TO PROVE INSTALLATION IS IN ACCORDANCE WITH CONTRACT REQUIREMENTS. TESTS SHALL BE CONDUCTED DURING THE CONSTRUCTION PERIOD AND AT COMPLETION TO DETERMINE CONFORMITY WITH APPLICABLE CODES AND WITH THESE SPECIFICATIONS. TESTS, IN ADDITION TO SPECIFIC SYSTEM TEST DESCRIBED ELSEWHERE, SHALL INCLUDE:

   2.1. PERFORM TESTING AS DESCRIBED IN NETA ATS. INCLUDE TE

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MBI

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL



TITLE

ELECTRICAL SPECIFICATIONS

SHEET #

E002

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6 and §141.0(b)2 for indoor lighting scopes using the prescriptive path for nonresidential and hotel/motel occupancies. It is also used to document compliance with requirements in §160.5, §170.2(e) and §180.2(b)4 for indoor lighting scopes using the prescriptive path for multifamily occupancies. Multifamily includes dormitory and senior living facilities.	
Project Name: OCDE TI	**Report Page:** (Page 1 of 8)
Project Address:	**Date Prepared:** 2026-10-02T19:46:34-04:00

A. GENERAL INFORMATION

01 Project Location (city)	Costa Mesa	04 Total Conditioned Floor Area (ft²)	6,646
02 Climate Zone	6	05 Total Unconditioned Floor Area (ft²)	0
03 Occupancy Types Within Project (select all that apply):		06 # of Stories (Habitable Above Grade)	3

● Office

B. PROJECT SCOPE

This table includes any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 / §170.2(e) or §141.0(b)2 / §180.2(b)4 for alterations.

Scope of Work	Conditioned Spaces		Unconditioned Spaces	
01	02	03	04	05
My Project Consists of (check all that apply):	Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☐ New Lighting System	N/A	0	N/A	0
☐ New Lighting System - Parking Garage	N/A	0	N/A	0
☒ Altered Lighting System	Area Category Method	6646	N/A	0
Total Area of Work (ft²)	6646			

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 2 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

C. COMPLIANCE RESULTS

If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(b)1 /§170.2(e)	Allowed Lighting Power per §140.6(b) /§170.2(e) (Watts)					Adjusted Lighting Power per §140.6(a) /§170.2(e) (Watts)				Compliance Results
	01	02	03		04	05	06		07	08
	Complete Building §140.6(c)1	Area Category §140.6(c)2 /§170.2(e)4	Area Category Additional §140.6(c)2G / §170.2(e)4Av (+)	=	Total Allowed (Watts)	≥ Total Designed (Watts)	Adjustments PAF Lighting Control Credits §140.6(a)2 /§170.2(e)1B (-)	=	Total Adjusted (Watts) *Includes Adjustments	05 must be >= 08 §140.6 /§170.2(e)
	(See Table I)	(See Table I)	(See Table J)			(See Table F)	(See Table P)			
Conditioned		3,621.55		=	3,621.55	≥ 3,240		=	3240	COMPLIES
Unconditioned				=		≥		=		
Controls Compliance (See Table H for Details)										COMPLIES
One-for-one Luminaire Alterations Compliance (See Table Q for Details)										

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

Generated Date/Time:
CA Building Energy Efficiency Standards - 2025 Nonresidential Compliance
Report Version: 2025.0.000
Schema Version: rev 20250101
Documentation Software: Energy Code Ace
Compliance ID: ECA-448478-1026-0001
Report Generated: 2026-10-02 16:46:36

STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 3 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

F. INDOOR LIGHTING FIXTURE SCHEDULE

This table includes all planned permanent and portable lighting other than dwelling unit/ hotel/ motel room lighting. Multifamily dwelling unit and hotel/motel room lighting is documented in Table T. If using Table T to document lighting in multifamily common use areas providing shared provisions for living, eating, cooking or sanitation, those luminaires are not included here.

Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change [1]	Watts per luminaire[2]	How is Wattage determined	Total Number of Luminaires	Excluded per §140.6(a)3 / §170.2(e)2C	Design Watts	Field Inspector	
									Pass	Fail
A	2x4 LED Troffer	No	NA	30	Mfr. Spec	103	No	3,090	☐	☐
B	6" LED Round Downlight	No	NA	30	Mfr. Spec	4	No	120	☐	☐
C	4' LED Linear	No	NA	30	Mfr. Spec	1	No	30	☐	☐
							Total Designed Watts: CONDITIONED SPACES	3,240		

[1] *FOOTNOTE: Design Watts for small aperture and color chonging luminaires which qualify per §140.6(a)4B /§170.2(e)2D is adjusted to be 75% /80% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.*

[2] *Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) /§160.5(b). Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS

This section does not apply to this project.

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

This table includes lighting controls for conditioned and unconditioned spaces.

Building Level Controls

01	02	03	
		Field Inspector	
Mandatory Demand Response §110.12(c)	Shut-off controls §130.1(c) / §160.5(b)4C	Pass	Fail
NA < 4,000W subject to multilevel	See Area/Space Level Controls (Column 8)	☐	☐

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 4 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Manual Controls §130.1(a) /§160.5(b)4A	Multi-Level Controls §130.1(b) /§160.5(b)4B	Shut-Off Controls §130.1(c) //§160.5(b)4C	Primary/Skylit Daylighting §130.1(d) /§160.5(b)4D	Secondary Daylighting §130.1(d) /§160.5(b)4D	Interlocked Systems §140.6(a)1/ §170.2(e)2A	Field Inspector	
								Pass	Fail
Office	Office (<=250 square feet)	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Open Office	Office (<=250 square feet)	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Restroom	Restroom	Readily Accessible and located in the same space.	NA: Restrooms	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Storage	Storage - MF common areas	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Elec Room	Electrical, Mechanical, or Telephone Room	Readily Accessible and located in the same space.	NA: Space <1005F	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Break Room	Lounge	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐

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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 5 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

H. INDOOR LIGHTING CONTROLS (Not including PAFs)

Conference Area	Convention, Conference, Multipurpose and Meeting Center	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Conference Area - 108	Convention, Conference, Multipurpose and Meeting Center	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐
Conference	Convention, Conference, Multipurpose and Meeting Center	Readily Accessible and located in the same space.	Dimmer	Occupancy Sensor	NA: Not daylit zone	NA: Not daylit zone	No	☐	☐

13
Plan Sheet Showing Daylit Zones:

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Each area complying using the Complete Building or Area Category Methods per §140.6(b) are included in this table. Column 06 indicates if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used .

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowance / Adjustment	
					Area CategoryPAF	PAF
Office	Office (<=250 square feet)	0.65	1,118	726.7	No	No
Open Office	Office (<=250 square feet)	0.65	1,560	1,014	No	No
Open Office	Office (<=250 square feet)	0.65	1,336	868.4	No	No
Restroom	Restroom	0.65	248	161.2	No	No
Storage	Storage - MF common areas	0.4	212	84.8	Yes	No
Elec Room	Electrical, Mechanical, or Telephone Room	0.4	30	12	No	No

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CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 6 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Break Room	Lounge	0.55	184	101.2	No	No
Conference Area	Convention, Conference, Multipurpose and Meeting Center	0.75	255	191.25	No	No
Conference Area - 108	Convention, Conference, Multipurpose and Meeting Center	0.75	500	375	No	No
Conference	Convention, Conference, Multipurpose and Meeting Center	0.75	116	87	No	No
		TOTALS:	5,559	3,621.55	See Tables J, or P for detail	

J. ADDITIONAL ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

All areas indicated in Table I as using an additional allowance using the Area Category Method have been included in this table to calculate the additional allowance per Table 140.6-C /170.2-M

Conditioned Spaces

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))

This section does not apply to this project.

Q. ONE-FOR-ONE LUMINAIRE ALTERATIONS

This section does not apply to this project.

R. 80% LIGHTING POWER FOR ALL ALTERATIONS - CONTROLS EXCEPTIONS

This section does not apply to this project.

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)

This section does not apply to this project.

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CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 7 of 8)
	Date Prepared: 2026-10-02T19:46:34-04:00

T. DWELLING UNIT LIGHTING

This section does not apply to this project.

U. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Selections have been made based on information provided in this document. If any selections have been changed by permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online

Form/Title
NRCI-LTI-E - Must be submitted for all buildings

V. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Selections have been made based on information provided in this document. If any selections have been changed by the permit applicant, an explanation should be included in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

Form/Title	Systems/Spaces To Be Field Verified
NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	Office; Open Office; Restroom; Storage; Elec Room; Break Room; Conference Area; Conference Area - 108; Conference

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STATE OF CALIFORNIA
Indoor Lighting
CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE	NRCC-LTI-E
Project Name: OCDE TI	**Report Page:** (Page 8 of 8)
Project Address:	**Date Prepared:** 2026-10-02T19:46:34-04:00

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	Documentation Author Signature:
Andrew Montes	
Company:	**Signature Date:**
Address:	**CEA/HERS Certification Identification (if applicable):**
City/State/Zip:	**Phone:**

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Person Name:	Responsible Person Signature:
Andrew Montes	
Responsible Person Scope:	
Company:	**Date Signed:**
Address:	**License:**
City/State/Zip:	**Phone:**

Generated Date/Time:
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PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

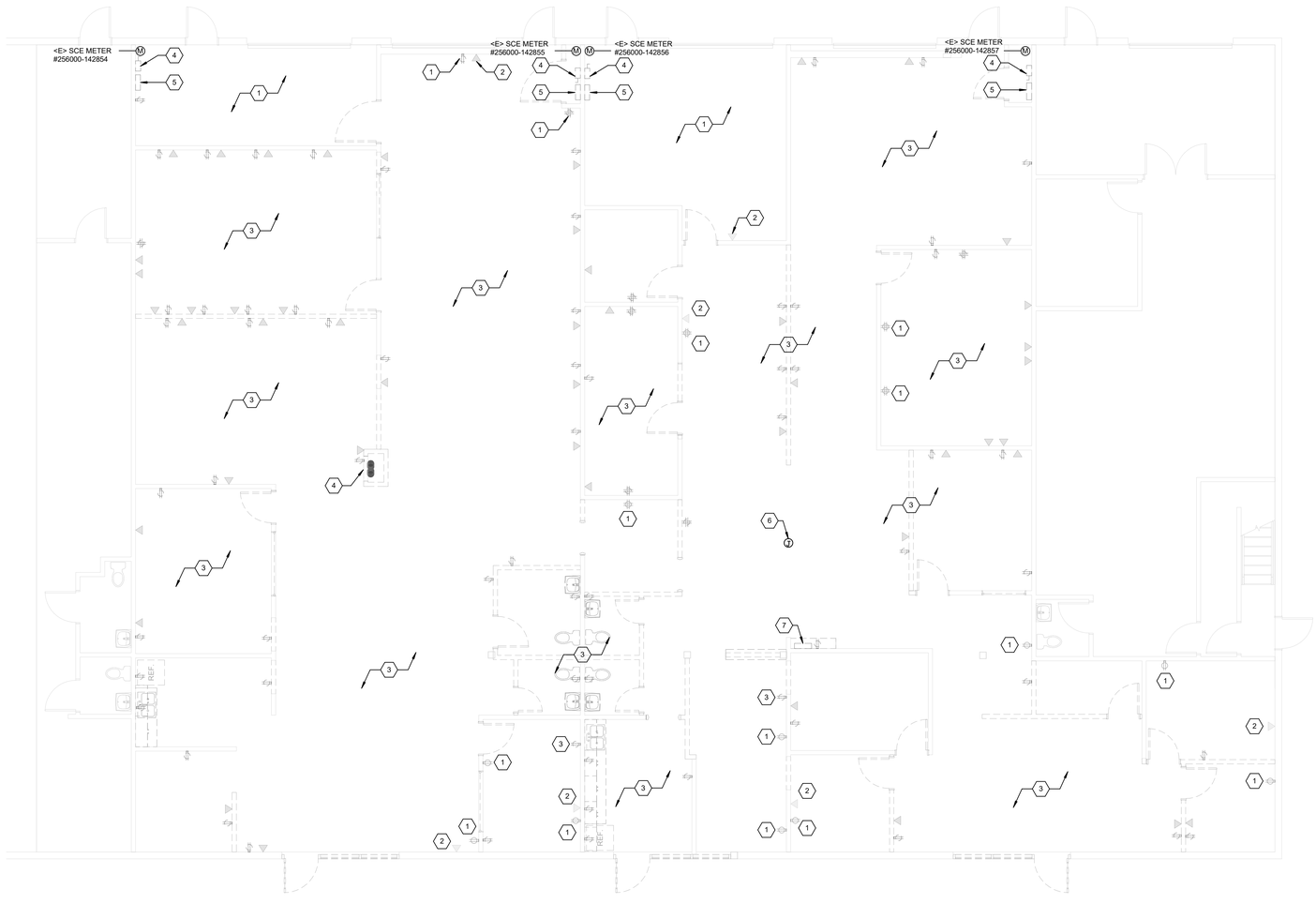
PROJECT # **026.0084.00**

DESIGN PROFESSIONAL



TITLE
ELECTRICAL TITLE 24

SHEET #
E003



FLOOR PLAN - POWER DEMO

SCALE: 3/16" = 1'-0"

1

BUILDING NORTH

MAGNETIC NORTH

GENERAL SHEET NOTES

A. SEE SHEET E-001 FOR DEMOLITION NOTES AND ADDITIONAL GENERAL NOTES.

B. ALL NEW ELECTRICAL DEVICES ARE SHOWN DIAGRAMATICALLY. ELECTRICAL TO COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL, REFRIGERATION AND OWNER PRIOR TO ROUGH-IN.

C. U.O.N. ALL NEW CONDUITS SHALL BE CONCEALED ABOVE CEILINGS AND IN WALL. ALL NEW ELECTRICAL DEVICES SHALL BE RECESSED IN WALL. CUT & PATCH AND PAINT WALL TO MATCH ADJACENT WALL.

D. CONTRACTOR SHALL REMOVE AND RENSTALL DEVICES AS NEEDED FROM AFFECTED WALLS SCHEDULED TO BE DEMOLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO REMOVED DEVICES DURING DEMOLITION AND REINSTALLATION.

E. ALL ELECTRICAL DEVICES/DISCONNECT SWITCHES SHALL BE READILY ACCESSIBLE PER CODE REQUIREMENT.

F. CONTRACTOR SHALL ADD CIRCUIT LABEL TO ALL NEW AND EXISTING RECEPTACLES PER DETAIL 4 ON SHEET E-501.

G. ALL EXISTING ELECTRICAL DEVICES TO REMAIN PROTECTED IN PLACE.

⎔ KEYED SHEET NOTES

1. EXISTING ELECTRICAL EQUIPMENT TO REMAIN PROTECTED IN PLACE.
2. EXISTING DEVICE TO REMAIN PROTECTED IN PLACE. REMOVE ASSOCIATED CONNECTIONS BACK TO SOURCE.
3. REMOVE EXISTING DEVICES AND ASSOCIATED CONNECTIONS BACK TO SOURCE U.O.N.
4. REMOVE EXISTING DISCONNECT SWITCH AND ASSOCIATED WIRING/CONDUIT BACK TO SOURCE.
5. REMOVE EXISTING ELECTRICAL PANELBOARD AND ASSOCIATED EQUIPMENT. RE-CIRCUIT EXISTING BRANCH CIRCUITS TO NEW REPLACEMENT PANELBOARD AS INDICATED.
6. REMOVE EXISTING POWER POLE AND ASSOCIATED POWER/DATA WIRING AND CONDUIT BACK TO SOURCE. PATCH AND REPAIR CEILING AND FLOOR SURFACES TO MATCH ADJACENT FINISHES.
7. COORDINATE WITH IT DEPARTMENT FOR LOW VOLTAGE REQUIREMENTS.

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ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

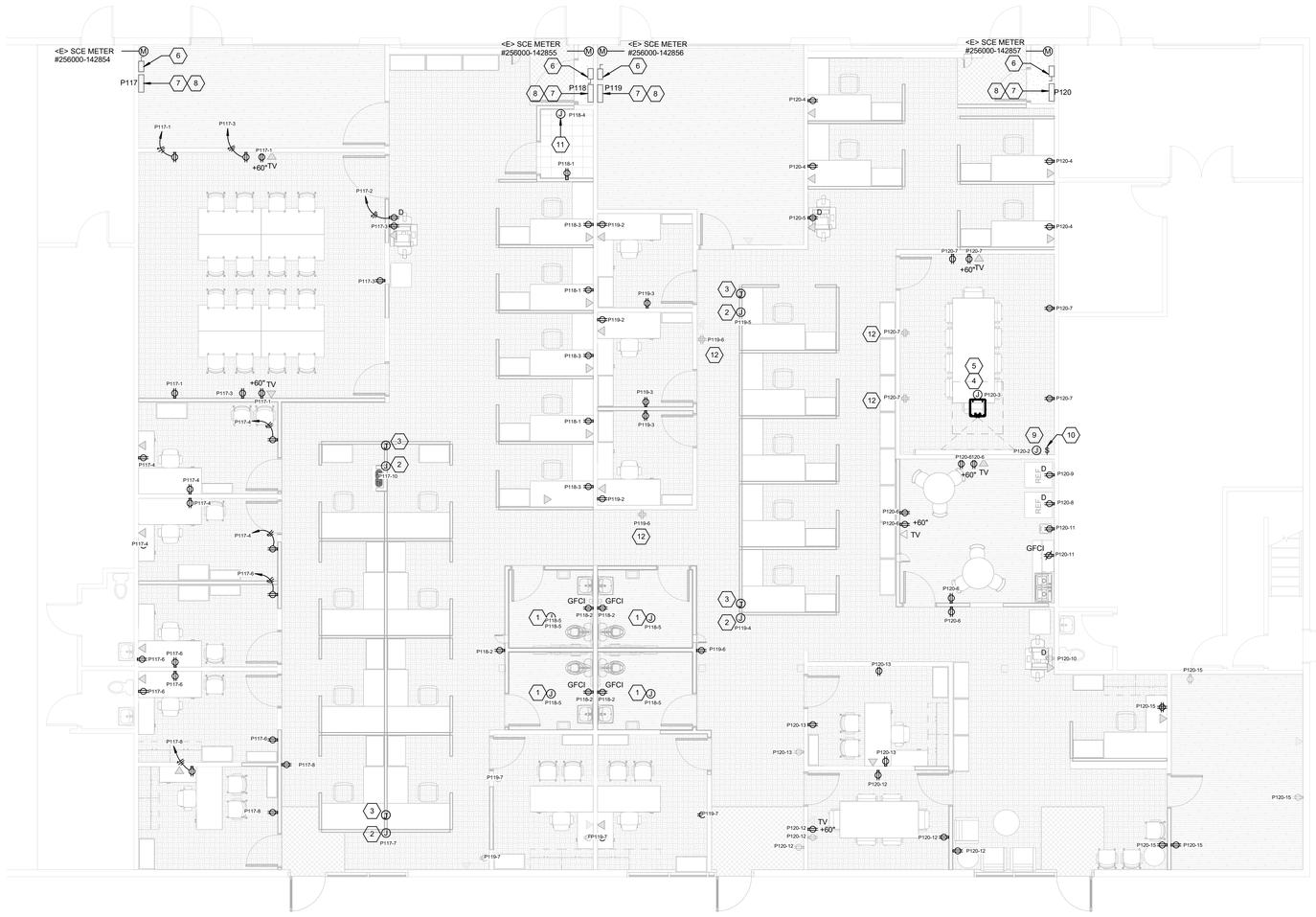
DESIGN PROFESSIONAL

TITLE

ELECTRICAL FLOOR PLAN - DEMO

SHEET #

E101



FLOOR PLAN - POWER

SCALE: 3/16" = 1'-0"

1

BUILDING NORTH

MAGNETIC NORTH

GENERAL SHEET NOTES

A. SEE SHEET E-001 FOR DEMOLITION NOTES AND ADDITIONAL GENERAL NOTES.

B. ALL NEW ELECTRICAL DEVICES ARE SHOWN DIAGRAMATICALLY. ELECTRICAL TO COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL, REFRIGERATION AND OWNER PRIOR TO ROUGH-IN.

C. U.O.N. ALL NEW CONDUITS SHALL BE CONCEALED ABOVE CEILINGS AND IN WALL. ALL NEW ELECTRICAL DEVICES SHALL BE RECESSED IN WALL. CUT & PATCH AND PAINT WALL TO MATCH ADJACENT WALL.

D. CONTRACTOR SHALL REMOVE AND RENSTALL DEVICES AS NEEDED FROM AFFECTED WALLS SCHEDULED TO BE DEMOLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO REMOVED DEVICES DURING DEMOLITION AND REINSTALLATION.

E. ALL ELECTRICAL DEVICES/DISCONNECT SWITCHES SHALL BE READILY ACCESSIBLE PER CODE REQUIREMENT.

F. CONTRACTOR SHALL ADD CIRCUIT LABEL TO ALL NEW AND EXISTING RECEPTACLES PER DETAIL 4 ON SHEET E-501.

G. ALL EXISTING ELECTRICAL DEVICES TO REMAIN PROTECTED IN PLACE.

⬡ KEYED SHEET NOTES

1. PROVIDE 3/4"C - 2#10 + 1#10 GND AND 20A RATED SWITCH FOR EXHAUST FAN. INTERTIE WITH LIGHT SWITCH FOR CONTROL. PROVIDE WIRING AND RELAY AS REQUIRED.
2. PROVIDE 3/4"C - 2#10 + 1#10 GND FOR FURNITURE FEED.
3. PROVIDE 3/4"C WITH LOW VOLTAGE DATA WIRING FOR FURNITURE FEED. COORDINATE WITH OCDE FOR LOW VOLTAGE WIRING REQUIREMENTS AND TERMINATION POINT.
4. PROVIDE 3/4"C - 2#10 + 1#10 GND FOR CEILING-MOUNTED PROJECTOR.
5. PROVIDE 3/4"C WITH LOW VOLTAGE WIRING FOR CEILING-MOUNTED PROJECTOR. COORDINATE WITH OCDE FOR LOW VOLTAGE WIRING REQUIREMENTS AND TERMINATION POINT.
6. PROVIDE 100A, 120/208V, 3P HEAVY DUTY FUSED DISCONNECT SWITCH (SUSE RATED). INTERCEPT AND EXTEND PREVIOUS POWER CONNECTION FROM RESPECTIVE SCE METER.
7. PROVIDE 100A, 208/120V, 3PH SURFACE MOUNTED PANEL. REFER TO SHEET E-701 FOR PANEL SCHEDULE AND SINGLE LINE DIAGRAM FOR FEEDER REQUIREMENTS AND INFORMATION.
8. RECIRCUIT ALL EXISTING TO REMAIN ELECTRICAL EQUIPMENT AND CONNECTIONS.
9. PROVIDE 3/4"C - 2#10 + 1#10 GND FOR MOTORIZED PROJECTOR SCREEN.
10. PROVIDE 3/4"C WITH CONTROL WIRING FROM 3-POSITION SWITCH UP/DOWN/STOP. COORDINATE WITH MANUFACTURER FOR EXACT REQUIREMENTS.
11. PROVIDE 1"C - 2#10 + 1#10 GND FOR DATA RACK. CONFIRM DATA RACK REQUIREMENTS WITH OCDE AND MANUFACTURER.
12. PROVIDE 3/4"C - 2#10 + 1#10 GND TO EXISTING QUADPLEX RECEPTACLE.

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ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

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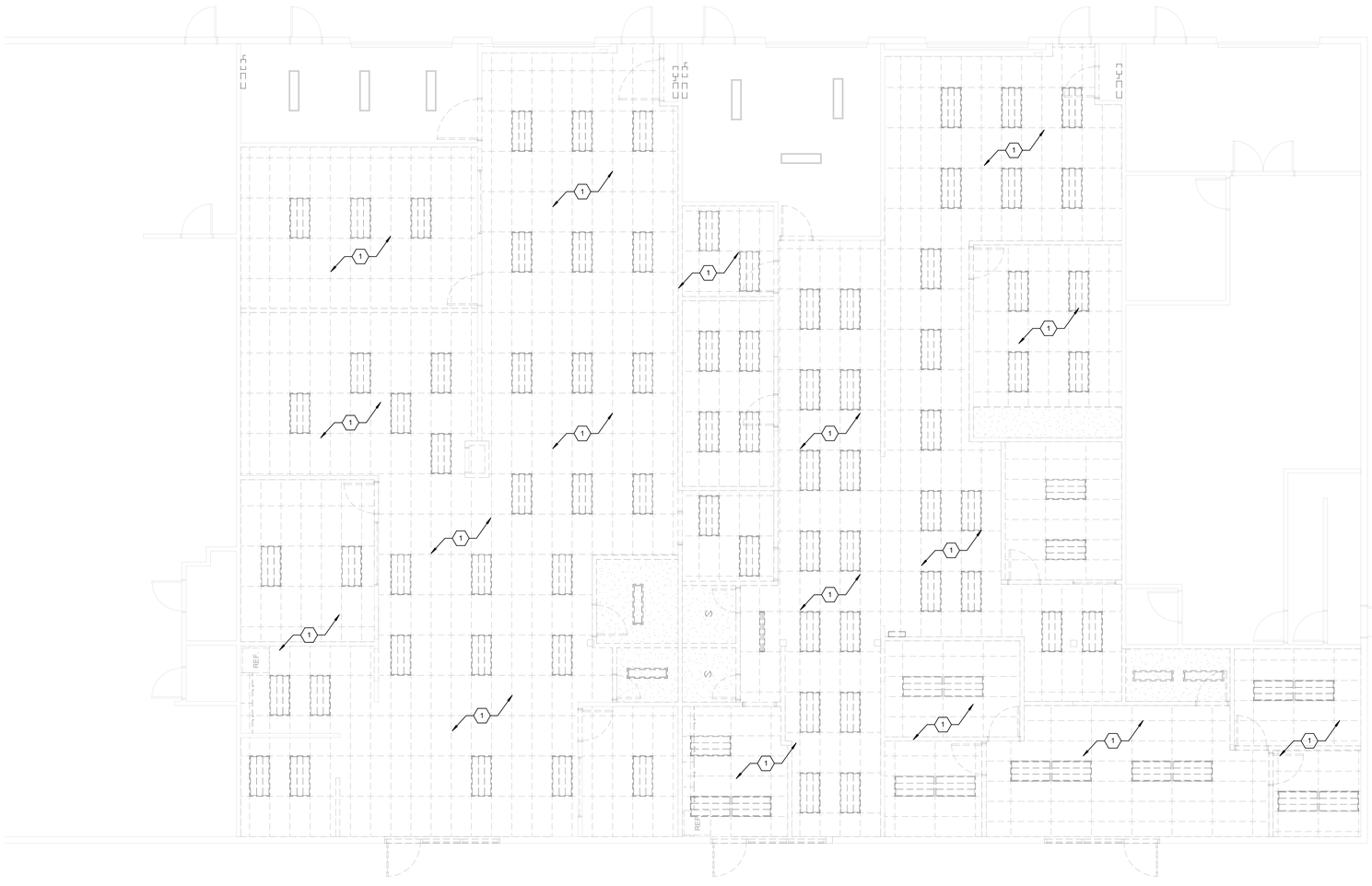
REGISTERED PROFESSIONAL ENGINEER STATE OF CALIFORNIA

TITLE

ELECTRICAL FLOOR PLAN - NEW

SHEET #

E102



FLOOR PLAN - LIGHTING DEMO

1

SCALE: 3/16" = 1'-0"

BUILDING NORTH

MAGNETIC NORTH

GENERAL SHEET NOTES

A. SEE SHEET E-001 FOR DEMOLITION NOTES AND ADDITIONAL GENERAL NOTES.

B. ALL NEW ELECTRICAL DEVICES ARE SHOWN DIAGRAMATICALLY. ELECTRICAL TO COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL, REFRIGERATION AND OWNER PRIOR TO ROUGH-IN.

C. U.O.N. ALL NEW CONDUITS SHALL BE CONCEALED ABOVE CEILINGS AND IN WALL. ALL NEW ELECTRICAL DEVICES SHALL BE RECESSED IN WALL. CUT & PATCH AND PAINT WALL TO MATCH ADJACENT WALL.

D. CONTRACTOR SHALL REMOVE AND RENSTALL DEVICES AS NEEDED FROM AFFECTED WALLS SCHEDULED TO BE DEMOLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO REMOVED DEVICES DURING DEMOLITION AND REINSTALLATION.

E. ALL ELECTRICAL DEVICES/DISCONNECT SWITCHES SHALL BE READILY ACCESSIBLE PER CODE REQUIREMENT.

F. CONTRACTOR SHALL ADD CIRCUIT LABEL TO ALL NEW AND EXISTING RECEPTACLES PER DETAIL 4 ON SHEET E-501.

G. ALL EXISTING ELECTRICAL DEVICES TO REMAIN PROTECTED IN PLACE.

⬡ KEYED SHEET NOTES

1. REMOVE EXISTING LIGHT FIXTURE/LIGHTING CONTROLS AND DEMOLISH ASSOCIATED CONNECTION BACK TO SOURCE. CONTRACTOR SHALL COORDINATE WITH OCDE TO CONFIRM WHICH LIGHT FIXTURES ARE TO BE SALVAGED AND TURNED OVER TO THE DISTRICT.

AGENCY APPROVAL

5

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MBI

4

3

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

2

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL E 417 STATE OF CALIFORNIA

1

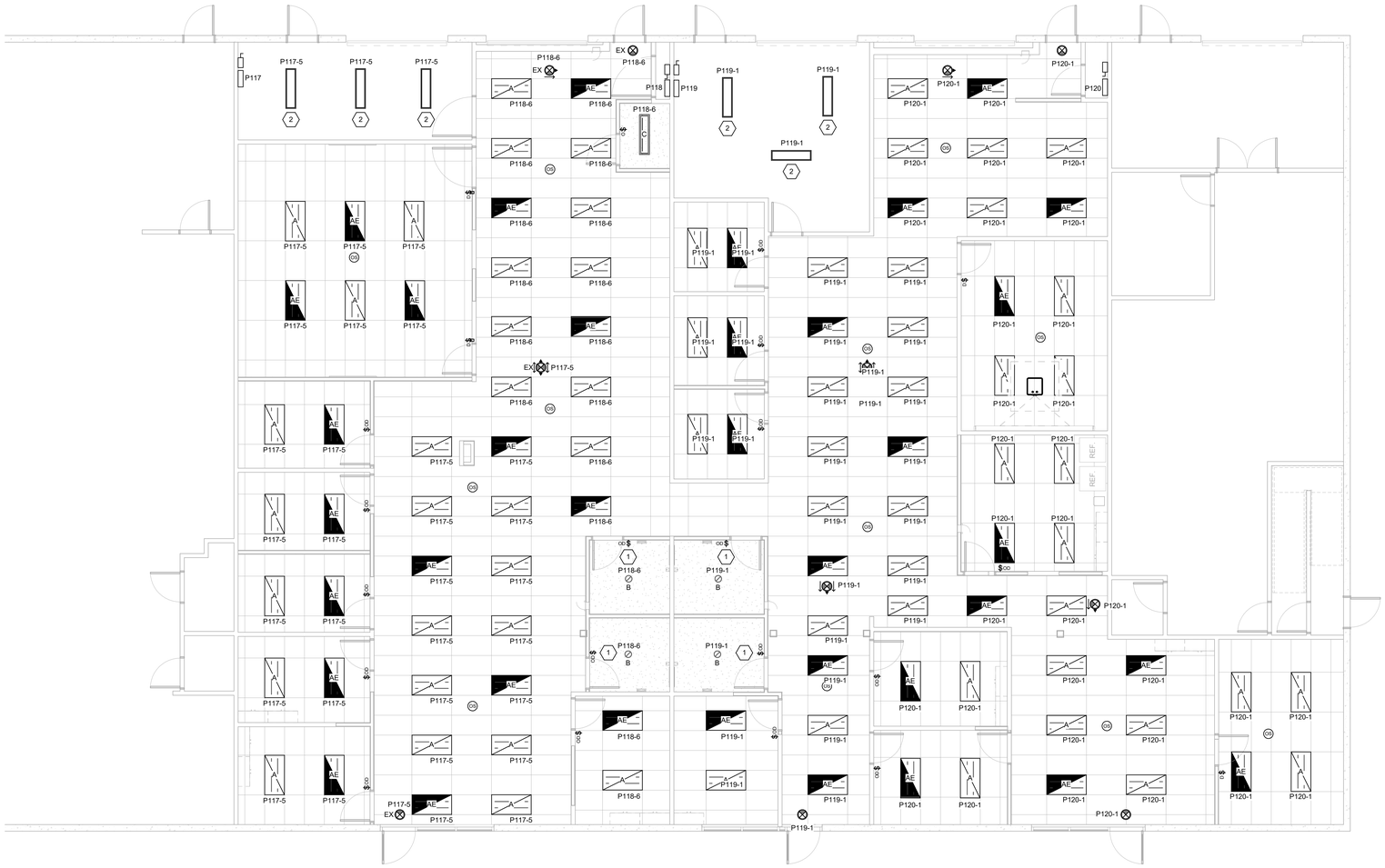
TITLE

LIGHTING FLOOR PLAN - DEMO

SHEET #

E103

E D C B A



FLOOR PLAN - LIGHTING

SCALE: 3/16" = 1'-0"

BUILDING NORTH

MAGNETIC NORTH

GENERAL SHEET NOTES

A. SEE SHEET E-001 FOR DEMOLITION NOTES AND ADDITIONAL GENERAL NOTES.

B. ALL NEW ELECTRICAL DEVICES ARE SHOWN DIAGRAMATICALLY. ELECTRICAL TO COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH ARCHITECTURAL, REFRIGERATION AND OWNER PRIOR TO ROUGH-IN.

C. U.O.N. ALL NEW CONDUITS SHALL BE CONCEALED ABOVE CEILINGS AND IN WALL. ALL NEW ELECTRICAL DEVICES SHALL BE RECESSED IN WALL. CUT & PATCH AND PAINT WALL TO MATCH ADJACENT WALL.

D. CONTRACTOR SHALL REMOVE AND RENSTALL DEVICES AS NEEDED FROM AFFECTED WALLS SCHEDULED TO BE DEMOLISHED. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO REMOVED DEVICES DURING DEMOLITION AND REINSTALLATION.

E. ALL ELECTRICAL DEVICES/DISCONNECT SWITCHES SHALL BE READILY ACCESSIBLE PER CODE REQUIREMENT.

F. CONTRACTOR SHALL ADD CIRCUIT LABEL TO ALL NEW AND EXISTING RECEPTACLES PER DETAIL 4 ON SHEET E-501.

G. ALL EXISTING ELECTRICAL DEVICES TO REMAIN PROTECTED IN PLACE.

KEYED SHEET NOTES

1. PROVIDE LIGHTING CONTROL. INTERTIE WITH EXHAUST FAN FOR CONTROL. PROVIDE WIRING RELAY AS REQUIRED.

2. CONNECT EXISTING LIGHT FIXTURE. CONTRACTOR TO PROVIDE CONDUIT AND WIRING AS NECESSARY.

AGENCY APPROVAL

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ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL



TITLE

LIGHTING FLOOR PLAN - NEW

SHEET #

E104

TYPE	LAMP TYPE	VOLTAGE	WATTS	LUMENS	COLOR TEMP	CRI	MOUNTING	HEIGHT	MANUFACTURER	MODEL	COMMENTS
A	LED	120	30	4000	4000K	90	RECESSED	CEILING	LITHONIA	2BLT4-40L-ADSM-LP940	CONFIRM FINISH W/ ARCH.
AE	LED	120	34	4000	4000K	90	RECESSED	CEILING	LITHONIA	2BLT4-40L-ADSM-LP940-E10 W	CONFIRM FINISH W/ ARCH.90 MIN. BATTERY BACK-UP
B	LED	120	30	4000	4000K	90	SURFACE	CEILING	LITHONIA	LDN8-40K-30-LS6-MVOLT-GZ1 -EL	CONFIRM FINISH W/ ARCH.90 MIN. BATTERY BACK-UP
C	LED	120	30	4000	4000K	90	SURFACE	CEILING	LITHONIA	BLWP4 40L ADSM LP940	CONFIRM FINISH W/ ARCH.
EX	LED	120	5	-	-	-	SURFACE	CEILING	LITHONIA	EDGR-1-R-EL	EXIT SIGN W/BATTERY BACK-UP

INTERIOR LIGHTING FIXTURE NOTES

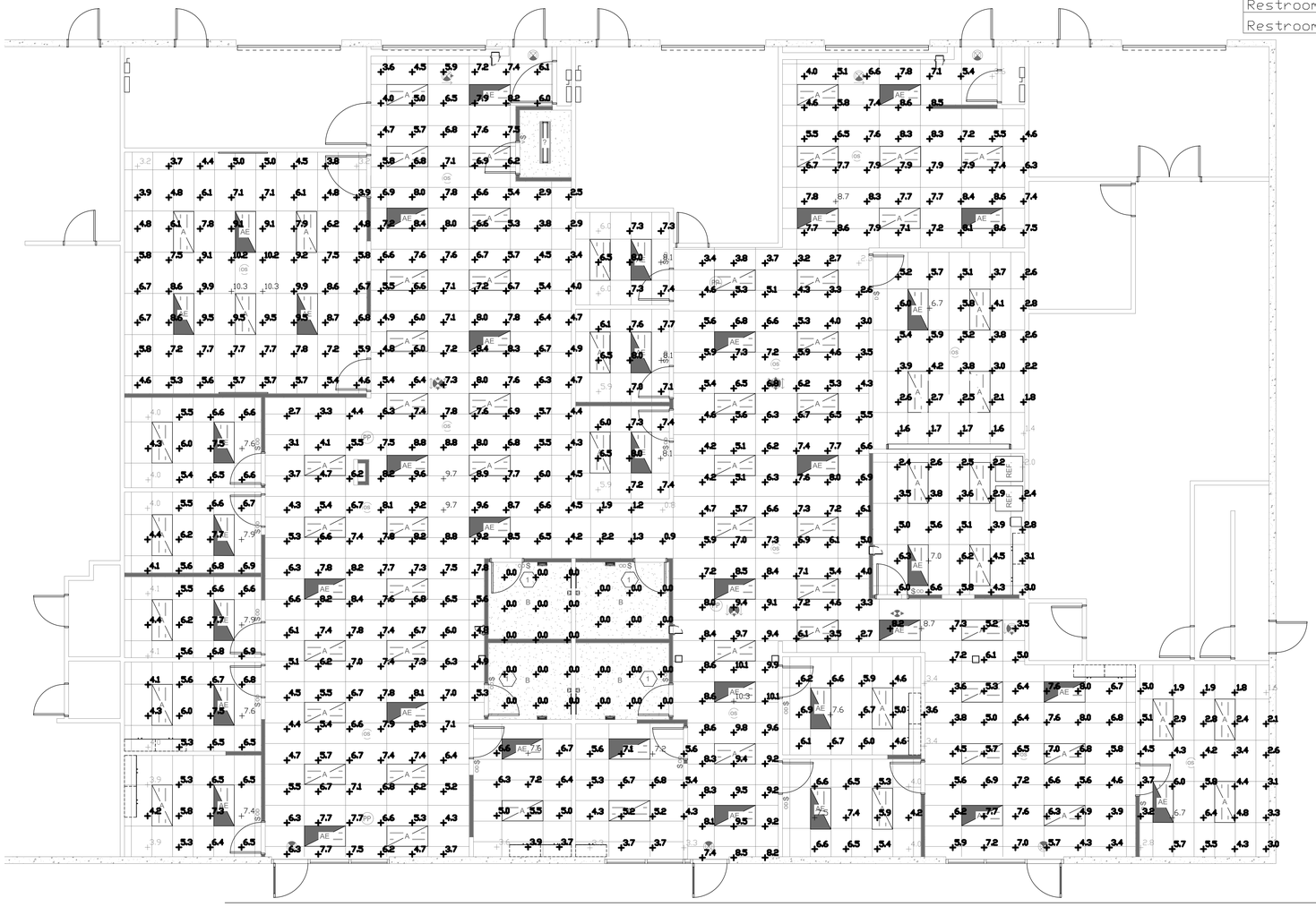
1. ALL FIXTURES SHALL BE U.L. AND CERTIFIED PER C.E.C. 2-111.
2. VERIFY CATALOG NUMBER PRIOR TO BIDDING OR PURCHASING.
3. ALL LED FIXTURES SHALL BE 4000K UNLESS NOTED OTHERWISE.

LIGHT CONTROL DEVICE SCHEDULE

MFR.	CATALOG NO.	DESCRIPTION	MTG.
nLIGHT	NLTAIR2 APIR	GEN2 CONTROL DEVICE WITH LOW MOUNT OCCUPANCY AND DAYLIGHT SENSOR	MOUNTING ON FIXTURE
nLIGHT	NLTAIREM2 APIR	GEN2 CONTROL DEVICE WITH LOW MOUNT OCCUPANCY AND DAYLIGHT SENSOR, WITH UL924 LISTED EMERGENCY OPERATION	MOUNTING ON FIXTURE

LIGHTING CONTROL DEVICES NOTES

1. CONTRACTOR SHALL FURNISH AND INSTALL CAT5E CABLES BETWEEN LIGHTING CONTROL DEVICES PER MANUFACTURER REQUIREMENT.
2. LIGHTING CONTROL SYSTEM SHALL BE COMMISSIONED BY MANUFACTURER'S REPRESENTATIVE.
3. ALL LIGHT FIXTURES AND LIGHTING CONTROL DEVICES SHALL HAVE 5 YEARS WARRANTY.



Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
109 - Open Office	+	6.3 fc	9.7 fc	0.8 fc	12.1:1	7.9:1
110 - Conferenc Room	+	6.8 fc	10.3 fc	3.2 fc	3.2:1	2.1:1
118 - Open Office	+	6.5 fc	10.3 fc	2.3 fc	4.5:1	2.8:1
119 - Open Office	+	7.2 fc	8.7 fc	3.6 fc	2.4:1	2.0:1
121 - Conference	+	3.6 fc	6.7 fc	1.4 fc	4.8:1	2.6:1
122 - Break Room	+	4.1 fc	7.0 fc	2.0 fc	3.5:1	2.1:1
128 - Conference	+	5.8 fc	7.5 fc	4.0 fc	1.9:1	1.5:1
129 - Waiting Area	+	5.9 fc	8.7 fc	2.8 fc	3.1:1	2.1:1
130 - Storage	+	3.8 fc	6.7 fc	1.6 fc	4.2:1	2.4:1
Office	+	5.8 fc	7.4 fc	3.9 fc	1.9:1	1.5:1
Office	+	5.9 fc	7.6 fc	4.0 fc	1.9:1	1.5:1
Office	+	6.0 fc	7.9 fc	4.1 fc	1.9:1	1.5:1
Office	+	6.0 fc	7.9 fc	4.0 fc	2.0:1	1.5:1
Office	+	5.9 fc	7.6 fc	4.0 fc	1.9:1	1.5:1
Office	+	5.6 fc	7.6 fc	3.6 fc	2.1:1	1.6:1
Office	+	7.1 fc	8.1 fc	6.0 fc	1.4:1	1.2:1
Office	+	7.1 fc	8.1 fc	5.9 fc	1.4:1	1.2:1
Office	+	7.1 fc	8.1 fc	5.9 fc	1.4:1	1.2:1
Office	+	5.2 fc	7.2 fc	3.3 fc	2.2:1	1.6:1
Office	+	5.6 fc	7.6 fc	3.4 fc	2.2:1	1.6:1
Restroom	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
Restroom	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
Restroom	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A
Restroom	+	0.0 fc	0.0 fc	0.0 fc	N/A	N/A

ELECTRICAL EMERGENCY PHOTOMETRIC CALCULATIONS

AGENCY APPROVAL

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300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

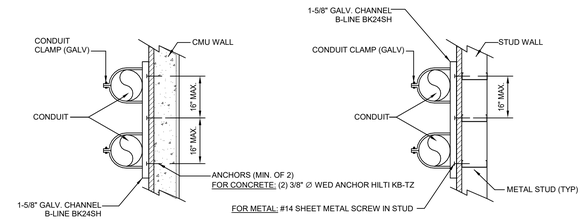
TITLE

PHOTOMETRIC CALCULATIONS

SHEET #

E105

NOTES:
PROVIDE CONDUIT SUPPORT MAXIMUM OF EVERY 10ft AND WITHIN 3ft FROM ELECTRICAL BOXES AND COUPLINGS.

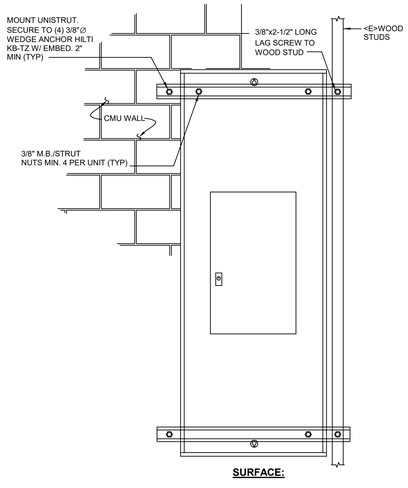


CONDUIT WALL SUPPORT 4

SCALE: NTS

NOTE:

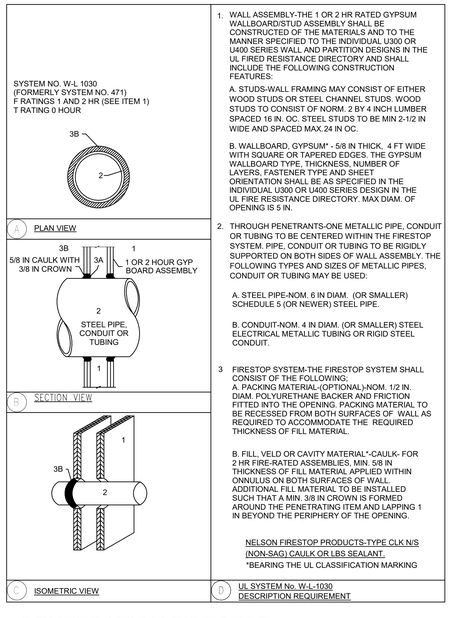
REFER TO STRUCTURAL SHEETS FOR BLOCKING DETAILS.



SURFACE:

PANELBOARD MOUNTING DETAIL 3

SCALE: NTS



1. WALL ASSEMBLY-THE 1 OR 2 HR RATED GYPSUM WALLBOARD/STUD ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND TO THE MANNER SPECIFIED TO THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRED RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:

   A. STUDS-WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NORM. 2 BY 4 INCH LUMBER SPACED 16 IN. OC. STEEL STUDS TO BE MIN 2-1/2 IN WIDE AND SPACED MAX.24 IN OC.

   B. WALLBOARD, GYPSUM* - 5/8 IN THICK, 4 FT WIDE WITH SQUARE OR TAPERED EDGES. THE GYPSUM WALLBOARD TYPE, THICKNESS, NUMBER OF LAYERS, FASTENER TYPE AND SHEET ORIENTATION SHALL BE AS SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY. MAX DIAM. OF OPENING IS 5 IN.

2. THROUGH PENETRANTS-ONE METALLIC PIPE, CONDUIT OR TUBING TO BE CENTERED WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING TYPES AND SIZES OF METALLIC PIPES, CONDUIT OR TUBING MAY BE USED:

   A. STEEL PIPE-NOM. 6 IN DIAM. (OR SMALLER) SCHEDULE 5 (OR NEWER) STEEL PIPE.

   B. CONDUIT-NOM. 4 IN DIAM. (OR SMALLER) STEEL ELECTRICAL METALLIC TUBING OR RIGID STEEL CONDUIT.

3 FIRESTOP SYSTEM-THE FIRESTOP SYSTEM SHALL CONSIST OF THE FOLLOWING:
A. PACKING MATERIAL-(OPTIONAL)-NOM. 1/2 IN. DIAM. POLYURETHANE BACKER AND FRICTION FITTED INTO THE OPENING. PACKING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL.

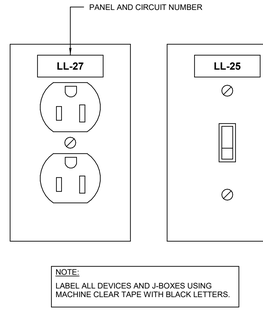
B. FILL, VELD OR CAVITY MATERIAL*-CAULK- FOR 2 HR FIRE-RATED ASSEMBLIES, MIN. 5/8 IN THICKNESS OF FILL MATERIAL APPLIED WITHIN ONNULUS ON BOTH SURFACES OF WALL. ADDITIONAL FILL MATERIAL TO BE INSTALLED SUCH THAT A MIN. 3/8 IN CROWN IS FORMED AROUND THE PENETRATING ITEM AND LAPPING 1 IN BEYOND THE PERIPHERY OF THE OPENING.

NELSON FIRESTOP PRODUCTS-TYPE CLK N/S (NON-SAG) CAULK OR LBS SEALANT.
*BEARING THE UL CLASSIFICATION MARKING

D UL SYSTEM No. W-L-1030 DESCRIPTION REQUIREMENT

PENETRATION FIRESTOP DETAIL 2

SCALE: NTS



NOTE:
LABEL ALL DEVICES AND J-BOXES USING MACHINE CLEAR TAPE WITH BLACK LETTERS.

DEVICE LABELING 1

SCALE: NTS

AGENCY APPROVAL

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300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL



TITLE

ELECTRICAL DETAILS

SHEET #

E501

Branch Panel: P117

Location: STORAGE 113
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 125 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	R - 110 CONFERENCE REC	20 A	1	860	180					1	20 A	R - 109 OPEN OFFICE COPY MACHINE	2
3	R - 110 CONFERENCE REC	20 A	1			720	1080			1	20 A	R - 104,105 OFFICE REC	4
5	L - 101-105,109,110,111 LIGHTING	20 A	1					1048	1080	1	20 A	R - 102,103 OFFICE REC	6
7	E - 109 OPEN OFFICE POWER POLE	20 A	1	500	540					1	20 A	R - 101 OFFICE REC	8
9	SPARE	20 A	1			0	500			1	20 A	E - 109 OPEN OFFICE POWER POLE	10
11	SPARE	20 A	1					0	0	1	20 A	SPARE	12
13	SPARE	20 A	1	0	0					1	20 A	SPARE	14
15	SPARE	20 A	1			0	0			1	20 A	SPARE	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPARE	20 A	1			0	0			1	20 A	SPARE	28
29	SPARE	20 A	1					0	0	1	20 A	SPARE	30
31	SPARE	20 A	1	0	0					1	20 A	SPARE	32
33	SPARE	20 A	1			0	0			1	20 A	SPARE	34
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42
			Total Load:	2080 VA		2300 VA		2128 VA					
			Total Amps:	17 A		19 A		18 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L - LIGHTING	100 VA	125.00%	125 VA		
R - RECEPTACLE	3960 VA	100.00%	3960 VA	**Total Conn. Load:**	6508 VA
E - EQUIPMENT	1500 VA	100.00%	1500 VA	**Total Est. Demand:**	6533 VA
Lighting	948 VA	100.00%	948 VA	**Total Conn. Current:**	18 A
				Total Est. Demand Current:	18 A

Branch Panel: P118

Location: ELEC 112
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 200 A
MCB Rating: 200 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	R - 111 IDF REC	20 A	1	540	900					1	20 A	R - 107,108,123,124 RESTROOM REC	2
3	R - 109 OPEN OFFICE REC	20 A	1			540	0			1	20 A	E - 111 IDF DATA RACK	4
5	E - 107,108,123,124 RESTROOM EXHAUST...	20 A	1					0	600	1	20 A	L - 106,109 LIGHTING	6
7	SPARE	20 A	1	0	0					1	20 A	SPARE	8
9	SPARE	20 A	1			0	0			1	20 A	SPARE	10
11	SPARE	20 A	1					0	0	1	20 A	SPARE	12
13	SPARE	20 A	1	0	0					1	20 A	SPARE	14
15	SPARE	20 A	1			0	0			1	20 A	SPARE	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPARE	20 A	1			0	0			1	20 A	SPARE	28
29	SPARE	20 A	1					0	0	1	20 A	SPARE	30
31	SPARE	20 A	1	0	0					1	20 A	SPARE	32
33	SPARE	20 A	1			0	0			1	20 A	SPARE	34
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42
			Total Load:	1440 VA		540 VA		600 VA					
			Total Amps:	12 A		5 A		5 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L - LIGHTING	70 VA	125.00%	88 VA		
R - RECEPTACLE	1980 VA	100.00%	1980 VA	**Total Conn. Load:**	2580 VA
E - EQUIPMENT	0 VA	0.00%	0 VA	**Total Est. Demand:**	2598 VA
Lighting	530 VA	100.00%	530 VA	**Total Conn. Current:**	7 A
				Total Est. Demand Current:	7 A

Branch Panel: P119

Location: STORAGE 114
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 125 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	L - 114-118,123,124 126 LIGHTING	20 A	1	951	540					1	20 A	R - 115,116,117 OFFICE REC	2
3	R - 115,116,117 OFFICE REC	20 A	1			540	500			1	20 A	E - 118 OPEN OFFICE POWER POLE	4
5	E - 118 OPEN OFFICE POWER POLE	20 A	1					500	900	1	20 A	R - 119 OPEN OFFICE REC	6
7	R - 106,125 OFFICE REC	20 A	1	900	0					1	20 A	SPARE	8
9	SPARE	20 A	1			0	0			1	20 A	SPARE	10
11	SPARE	20 A	1					0	0	1	20 A	SPARE	12
13	SPARE	20 A	1	0	0					1	20 A	SPARE	14
15	SPARE	20 A	1			0	0			1	20 A	SPARE	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPARE	20 A	1			0	0			1	20 A	SPARE	28
29	SPARE	20 A	1					0	0	1	20 A	SPARE	30
31	SPARE	20 A	1	0	0					1	20 A	SPARE	32
33	SPARE	20 A	1			0	0			1	20 A	SPARE	34
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42
			Total Load:	2391 VA		1040 VA		1400 VA					
			Total Amps:	20 A		9 A		12 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L - LIGHTING	165 VA	125.00%	206 VA		
R - RECEPTACLE	2880 VA	100.00%	2880 VA	**Total Conn. Load:**	4831 VA
E - EQUIPMENT	1000 VA	100.00%	1000 VA	**Total Est. Demand:**	4872 VA
Lighting	786 VA	100.00%	786 VA	**Total Conn. Current:**	13 A
				Total Est. Demand Current:	14 A

Branch Panel: P120

Location: ELEC 120
Supply From:
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 3P
Phases: 3
Wires: 4

A.I.C. Rating:
Mains Type:
Mains Rating: 125 A
MCB Rating: 100 A

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	L - 119,121,122,127-130 LIGHTING	20 A	1	1024	0					1	20 A	E - 121 CONF. MOTORIZED PROJECTOR...	2
3	E - 121 CONFERENCE PROJECTOR	20 A	1			0	720			1	20 A	R - 119 OPEN OFFICE REC	4
5	E - 119 OPEN OFFICE COPY MACHINE	20 A	1					1200	1150	1	20 A	R - 122 BREAK ROOM REC	6
7	R - 121 CONFERENCE REC	20 A	1	1510	180					1	20 A	R - 122 BREAK ROOM FRIDGE	8
9	R - 122 BREAK ROOM FRIDGE	20 A	1			180	1200			1	20 A	E - 129 WAITING AREA COPY MACHINE	10
11	R - 122 BREAK ROOM COUNTER/WATER REC	20 A	1					430	1150	1	20 A	R - 128 CONFERENCE ROOM REC	12
13	R - 127 CONFERENCE REC	20 A	1	720	0					1	20 A	SPARE	14
15	R - 130 STORAGE REC	20 A	1			1080	0			1	20 A	SPARE	16
17	SPARE	20 A	1					0	0	1	20 A	SPARE	18
19	SPARE	20 A	1	0	0					1	20 A	SPARE	20
21	SPARE	20 A	1			0	0			1	20 A	SPARE	22
23	SPARE	20 A	1					0	0	1	20 A	SPARE	24
25	SPARE	20 A	1	0	0					1	20 A	SPARE	26
27	SPARE	20 A	1			0	0			1	20 A	SPARE	28
29	SPARE	20 A	1					0	0	1	20 A	SPARE	30
31	SPARE	20 A	1	0	0					1	20 A	SPARE	32
33	SPARE	20 A	1			0	0			1	20 A	SPARE	34
35	SPARE	20 A	1					0	0	1	20 A	SPARE	36
37	SPARE	20 A	1	0	0					1	20 A	SPARE	38
39	SPARE	20 A	1			0	0			1	20 A	SPARE	40
41	SPARE	20 A	1					0	0	1	20 A	SPARE	42
			Total Load:	3434 VA		3180 VA		3930 VA					
			Total Amps:	29 A		27 A		33 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L - LIGHTING	20 VA	125.00%	25 VA		
R - RECEPTACLE	6120 VA	100.00%	6120 VA	**Total Conn. Load:**	10544 VA
E - EQUIPMENT	3400 VA	100.00%	3400 VA	**Total Est. Demand:**	10549 VA
Lighting	1004 VA	100.00%	1004 VA	**Total Conn. Current:**	29 A
				Total Est. Demand Current:	29 A

GENERAL SHEET NOTES

A. SEE SHEET E-001 FOR DEMOLITION NOTES AND ADDITIONAL GENERAL NOTES.

B. REROUTE EXISTING CIRCUITS AS REQUIRED FOR NEW DEVICES/EQUIPMENT. FIELD VERIFY AND JUNCTION BOXES EXACT LOCATION. ADJACENT SPACE SHALL NOT BE INTERRUPTED DURING CONSTRUCTION. PROVIDE TEMP GENERATOR, LIGHTING OR HVAC AS REQUIRED BY SCHOOL DISTRICT.

C. CONTRACTOR IS RESPONSIBLE TO FIELD VERIFY ALL CIRCUIT BREAKERS, SWITCHBOARD BUSSING AND FEEDERS PRIOR TO ANY WORK. CONTRACTOR SHALL TURN UNUSED/SPARE CIRCUIT BREAKERS TO OFF POSITION, AND PROVIDE PERMANENT NAMEPLATE TO EACH CIRCUIT BREAKER.

⎔KEYED SHEET NOTES

DEMO:

1. REMOVE ELECTRICAL PANEL AND DEMOLISH ALL ASSOCIATED CONDUIT AND FEEDERS BACK TO SOURCE. CONTRACTOR SHALL COORDINATE WITH SCE FOR SHUTDOWN SEQUENCE PRIOR TO DEMOLITION.

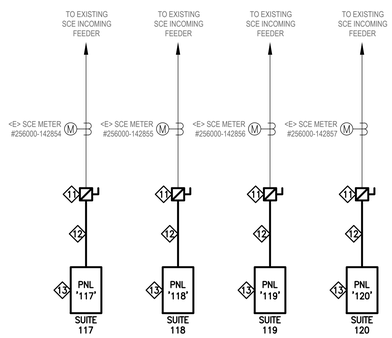
NEW:

11. PROVIDE 100A, 120/208V, 3P HEAVY DUTY FUSED DISCONNECT SWITCH (SUSE RATED). INTERCEPT AND EXTEND PREVIOUS POWER CONNECTION FROM RESPECTIVE SCE METER.

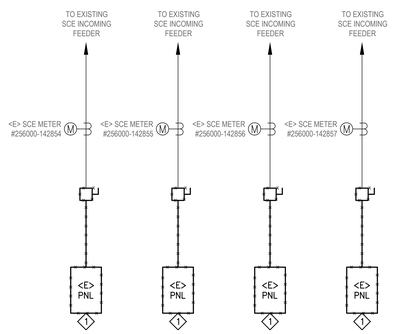
12. PROVIDE 1-1/2"C - 4#3 + 1#6 GND FROM FUSED DISCONNECT TO RESPECTIVE PANEL. CONTRACTOR SHALL COORDINATE WITH SCE FOR SHUTDOWN SEQUENCE PRIOR TO WORK.

13. SEE PANEL SCHEDULE ON SHEET E701.

14. INTERCEPT AND EXTEND EXISTING CIRCUITS FEEDING EXISTING MECHANICAL (HVAC) AND PLUMBING LOADS TO NEW PANELBOARD. PROVIDE CONDUIT AND FEEDERS TO MATCH EXISTING CONDITIONS. CONTRACTOR TO UPDATE PANEL SCHEDULE AS NEEDED.



SINGLE LINE DIAGRAM – NEW



SINGLE LINE DIAGRAM – DEMO

AGENCY APPROVAL

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These drawings have been prepared as one coordinated set of drawings and are complimentary. What is required by one drawing is required by all of the drawings, even if a detail or component part is not identified on every sheet. Any user's reliance on a single or select few sheet(s) of the drawings without consideration for the information included in the entire set of drawings will be at the user's sole risk and shall not form the basis for a request for additional compensation or time.

MBI

PROJECT

ORANGE COUNTY DEPARTMENT OF EDUCATION ESPLANADE BLDG 4 TI

300 RED HILL AVENUE, COSTA MESA, CA 92626

DSA PROJECT # - **04-123078**

DATE **10/09/2026**

PROJECT # **026.0084.00**

DESIGN PROFESSIONAL

REGISTERED PROFESSIONAL ENGINEER - 41? - STATE OF CALIFORNIA

TITLE

SINGLE LINE DIAGRAM AND PANEL SCHEDULES

SHEET #

E701